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सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board ON INDIAN RAILWAYS FOR 1949-50

Volume I

PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI.
PRINTED BY THE GOVERNMENT OF INDIA PRESS, CALCUTTA, INDIA
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PRINCIPAL STATISTICS OF RAILWAY OPERATIONS DURING 1947-8, 1948-9 and 1949-50

I.—ALL INDIAN RAILWAYS

Items		Classes I, II and III (including E. P. and Assam Railways and N. G. of E. I. Railway)			Indian Government Railways† (including E. P. and Assam Railways and N. G. of E. I. Railway)		
		1947-8	1948-9	**1949-50**	1947-8	1948-9	**1949-50**
Capital at charge	(crores) Rs.	742·20	*775·88	**812·99**	674·29	703·12	**727·18**
Route mileage as on 31 March .		33,984·88	*33,860·85	**34,022·29**	26,209·64	26,422·40	**27,172·10**
Gross earnings . . .	(crores) Rs.	183·69	*234·12	**258·31**	166·23	214·77	**238·32**
Total Working expenses . .	(crores) Rs.	163·94	*184·06	**207·08**	151·93	169·63	**192·89**
Operating ratio	per cent.	89·25	*78·62	**80·17**	91·40	78·98	**80·94**
Number of passengers originating .	(millions)	1,043·95	*1,184·51	**1,254·54**	929·08	1,061·35	**1,138·47**
Passenger miles	(millions)	33,649·09	*38,817·19	**40,021·11**	30,086·47	35,128·66	**36,322·30**
Earnings from carriage of passengers	(crores) Rs.	73·27	*93·11	**95·23**	65·10	83·91	**86·04**
Average earnings per passenger mile	Pies	4·18	4·60	**4·57**	4·15	4·59	**4·55**
Freight tons originating . .	(millions)	73·46	*82·67	**91·57**	65·68	74·42	**83·44**
Freight ton miles	(millions)	20,399·26	*22,750·42	**25,460·81**	19,250·99	21,639·83	**24,207·86**
Earnings from carriage of goods .	(crores) Rs.	86·34	*112·31	**135·70**	79·18	104·18	**126·67**
Average earnings per freight ton mile	Pies	8·13	*9·48	**10·2**	7·90	9·24	**10·0**
Total train miles	(millions)	157·01	*167·55	**179·42**	139·68	* 150·05	**161·27**
Gross earnings per train mile . .	Rs.	11·70	*13·97	**14·40**	11·90	14·31	**14·78**
Working expenses per train mile .	Rs.	10·44	*10·99	**11·54**	10·88	11·30	**11·96**
Net earnings per train mile . .	Rs.	1·26	*2·98	**2·86**	1·02	3·01	**2·82**
Net earnings per mean mile worked	Rs.	7,989	*14,647	**14,972**	5,440	16,933	**16,618**

* Revised figures.

† Include statistics of lines worked by Indian Government Railways but exclude Indian Government portions worked in the respective years by the Jodhpur, the N. S. and Saurashtra railways.

II.—INDIAN GOVERNMENT RAILWAYS

(The figures are inclusive of worked lines of Indian Government Railways. They exclude the N. W., B. A., and Indian Government portions of the Jodhpur and N. S. Railways for the years 1938-9 to 1946-7 and the E. P., Assam and Indian Government portions of the N. S. and narrow gauge of E. I. Railway since 1947-8.)

Items		1938-9 (Pre-war)	1939-40	1942-3	1944-5	1945-6	1946-7	1947-8	1948-9	**1949-50**
Capital at charge	(crores) Rs.	606·92	609·40	554·50	561·26	568·41	574·67	604·74	630·59	**644·69**
Route mileage as on 31 March		23,173·08	23,130·77	22,342·93	22,350·87	22,356·41	22,363·05	23,076·10	23,183·08	**23,480·74**
Gross earnings	(crores) Rs.	73·98	77·63	117·71	152·38	160·40	149·45	157·42	197·52	**219·05**
Total Working expenses.	(crores) Rs.	47·49	48·04	57·58	99·93	108·10	117·88	142·92	152·78	**172·83**
Operating ratio	Per cent.	64·19	61·88	48·92	65·58	67·39	78·88	90·79	77·35	**78·90**
Number of passengers originating.	(millions)	355·26	349·05	387·35	597·02	675·39	752·03	902·26	974·93	**1,039·63**
Passenger miles	(millions)	12,588·13	12,321·12	15,612·28	24,917·30	27,518·55	27,910·13	29,012·57	31,840·91	**32,838·32**
Earnings from carriage of passengers.	(crores) Rs.	20·41	20·10	30·25	49·82	56·45	57·46	62·23	75·33	**76·98**
Average earnings per passenger mile.	Pies	3·11	3·13	3·72	3·84	3·94	3·95	4·12	4·54	**4·50**
Freight tons originating.	(millions)	64·91	68·87	68·58	69·29	70·72	67·23	63·90	69·76	**78·73**
Freight ton miles.	(millions)	17,056·49	18,381·46	21,923·47	21,175·36	21,975·45	20,688·95	18,962·55	20,714·50	**23,145·92**
Earnings from carriage of goods.	(crores) Rs.	48·52	52·16	71·17	77·21	78·81	72·65	75·34	97·92	**119·50**
Average earnings per freight ton mile.	Pies	5·46	5·45	6·23	7·00	6·89	6·74	7·63	9·08	**9·90**
Total train miles.	(millions)	135·38	137·45	117·24	119·00	127·63	134·29	134·70	*137·86	**146·97**
Gross earnings per train mile.	Rs.	5·46	5·65	10·04	12·81	12·57	11·13	11·69	*14·33	**14·90**
Working expenses per train mile.	Rs.	3·51	3·50	4·91	8·40	8·47	8·78	10·61	11·08	**11·76**
Net earning per train mile.	Rs.	1·95	2·15	5·13	4·41	4·10	2·35	1·08	*3·25	**3·14**
Net earnings per mean mile worked.	Rs.	11,212	12,550	25,332	23,030	22,947	13,851	6,256	19,025	**19,167**

*** Revised figures.**

INTRODUCTORY NOTE

1. The Railway Board's annual report on Indian Railways is prepared for the financial year, *i.e.*, from 1 April of one year to 31 March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working, such as, general administration, financial results, improvements in, and additions to, rolling-stock, commercial and operating methods, recruiting, training and welfare of staff, and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and all other aspects of railway working.

2. For the information of those who are not conversant with the value of Indian currency and the units thereof, the following details are given:—

(*a*) One *lakh* equals one hundred thousand.
(*b*) One *crore* equals one hundred lakhs.
(*c*) One *anna* equals 1/16th of a rupee.
(*d*) One *pie* equals 1/12th of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

3. For statistical purposes, Indian railways systems are classified as follows:—

Class I.—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II.—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs.

Class III.—Railways with gross earnings of not more than Rs. 10 lakhs a year.

A detailed list of the railways in each class will be found in Appendix D of this Report.

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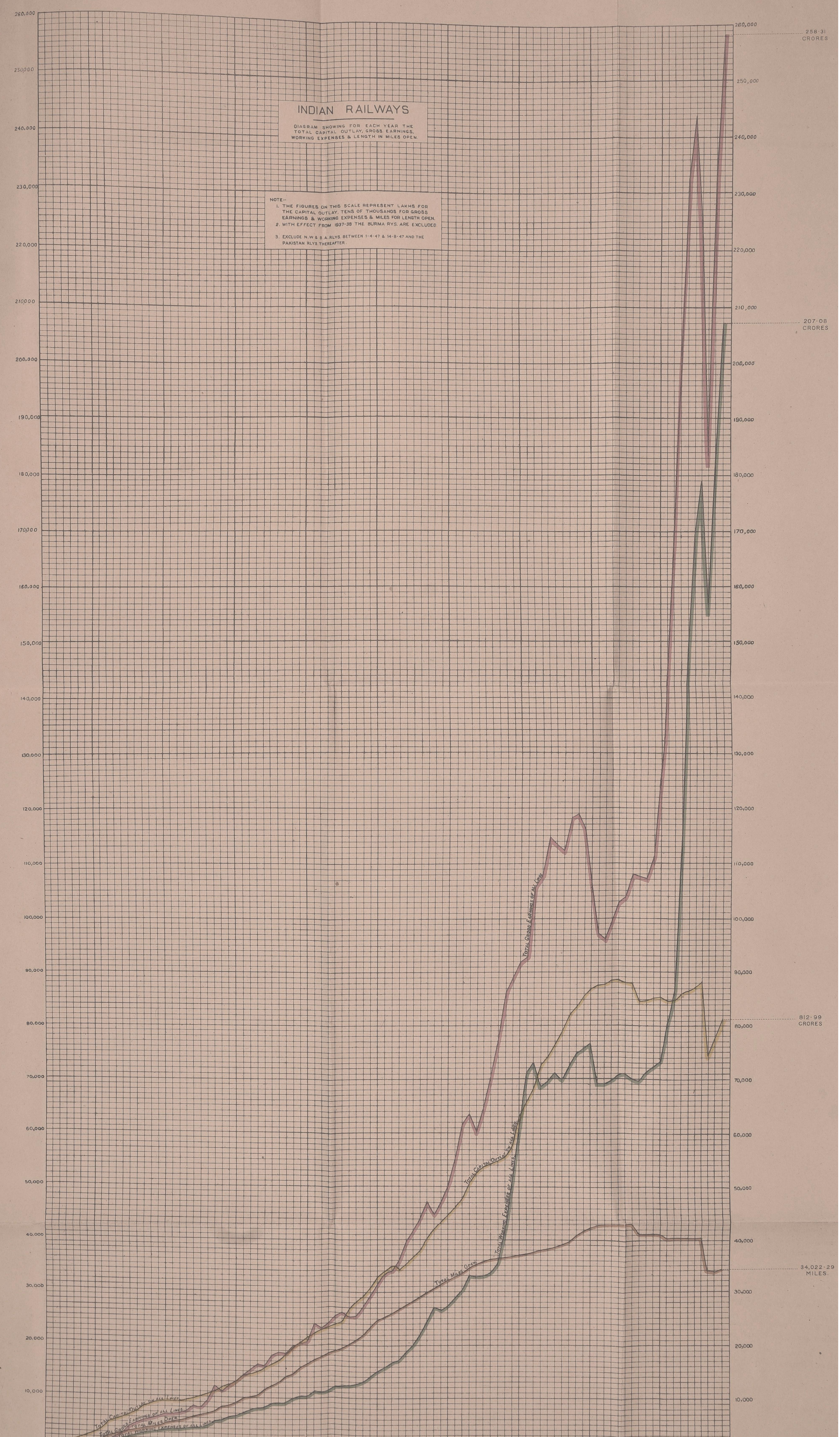

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Printed at the Survey of India Offices (P.L.O.).

CHAPTER I

GENERAL

1. General features of the year.—The year under review maintained in general the process of steady recovery that characterized railway working during the previous year. There were, however, certain adverse factors but these have not fortunately impaired either rail traffic, revenues, or operational efficiency. Under all these heads significant advances have been recorded.

Railway earnings are determined by the volume of traffic carried, and this in turn is governed by the economic activity of the country. From this point of view, the year proved on the whole satisfactory. As regards agricultural production, despite set backs in certain localities and particularly in the *Kharif* outturn in the South, there was a general increase under both acreage and yield. The food production alone was better by two million tons during the 1949-50 season than in the preceding season. In the category of industrial raw materials, the decline in oilseeds was partly offset by the increase in the production of raw cotton. The three-year scheme for the expansion of raw jute production inaugurated in the previous year appears to have yielded encouraging results. In the industrial sector, most industries recorded improvements over the figures of the previous year. Only textiles and jute manufactures showed a drop. Production of steel, cement and coal showed appreciable recovery. The output of electrical energy registered a large increase. Foreign trade, under exports, imports and re-exports, disclosed substantial gains. The improvement in transport itself was an important contributory factor to the better business activity during the year. No less important was the effect of better labour-management relations generally in the country.

These economic factors contributed to the improved results of railway working during 1949-50. Gross earnings of all railways during the year touched the highest level so far attained. Taking the comparable figures of Indian Government Railways (excluding the Jodhpur, N. S., E. P., Assam and N. G. of E. I.), new records have been set up under many items—gross earnings, passenger and goods earnings, number of passengers, passenger miles, originating tonnage, ton miles, and train miles. Some of these figures have indeed exceeded even those of the larger railway system of the pre-partitioned period, namely, the number of passengers, passenger earnings, and goods earnings. These achievements have been rendered possible by the unremitting efforts on the part of the Railways to attain greater operational efficiency and consequently enhanced capacity to handle additional traffic.

The principal features of railway operation as reflected in the statistics of the year are briefly commented upon in the succeeding paragraphs.

2. General review of working.—Gross earnings of all railways for the year 1949-50 amounted to Rs. 258·31 crores, an increase of about 11 per cent over the previous year. This increase is to be ascribed partly to the additional traffic handled under both passenger and goods during the year as compared with 1948-9, and partly to the effect of the rationalization of the rating structure, introduced on 1 October 1948, being operative throughout the year for the first time, and of concessional rates being withdrawn on railway stores. The earnings from passengers on all Indian Railways increased by 2·3 per cent and the earnings from goods traffic by 20·8 per cent.

There was no major change in rates during the year except the withdrawal with effect from 1 April 1949 of the concessional rates hitherto applied to railway stores and materials and the adoption of public tariff rates to this traffic.

The gross traffic receipts[1] of Indian Government Railways amounted to Rs. 236·35 crores. After meeting all charges, including depreciation and

[1] The difference between the gross traffic receipts referred to here and the gross earnings shown under principal statistics on page (i) is due to the inclusion of Suspense in the former.

interest charges, the surplus on the results of working for the year amounted to Rs. 14·59 crores. Out of this surplus, Rs. 7·59 crores were credited to the Railway Depreciation Fund as an additional contribution to strengthen the Fund; General revenues received a payment of Rs. 7·0 crores as contribution.

Certain important statistics relating to the traffic handled during 1949-50 as compared with 1948-9 for all Indian Railways are given below.

PRINCIPAL STATISTICS OF WORKING OF INDIAN RAILWAYS

Items		1948-9	1949-50	Percentage variations
Number of passengers carried	(in millions)	1,184·5*	**1,254·5**	+5·9
Passenger miles	(in millions)	38,817·2*	**40,021·1**	+3·1
Earnings from passengers	(in crores) Rs.	93·11*	**95·23**	+2·3
Average amount earned per passenger per mile	Pies	4·60	**4·57**	—0·7
Average miles a passenger was carried	Miles	32·8	**31·9**	—2·4
Freight tons carried	(in millions)	82·7*	**91·6**	+10·8
Net ton miles	(in millions)	22,750*	**25,461**	+11·9
Earnings from goods carried	(in crores) Rs.	112·31*	**135·70**	+20·8
Average amount earned per ton per mile	Pies	9·48*	**10·2**	+7·6
Average mile a ton of goods was carried	Miles	275*	**278**	+1·1

*Revised figures.

The comparative figures indicate that the volume of traffic moved under both passenger and goods was larger during 1949-50 than in 1948-9. Passenger miles during the year stood at 3·1 per cent higher than in the previous year, while the net ton miles increased by 11·9 per cent. The average lead of passengers declined from 32·8 miles in 1948-9 to 31·9 in 1949-50 while that of goods increased from 275 miles in 1948-9 to 278 miles in 1949-50.

Passenger traffic in 1949-50 has set up a fresh record. On Class I Railways, excluding Bikaner State, Eastern Punjab, Assam and East Indian (N.G.), the passenger miles in 1949-50 amounted to 34,643 million as compared with 13,359 million in 1938-9, an increase of 159 per cent, the highest level so far reached.

Owing to changes in passenger classes in 1949 it is not possible to compare precisely the traffic under various classes. In 1948-9 on Class I Railways the third class accounted for 96·3 per cent of the total number of passengers and 93·4 per cent of the total number of passenger miles. The corresponding percentages in 1949-50 are 96·7 and 93·4 respectively of the total number of passengers and passenger miles. The proportion of the third class traffic to upper class traffic has thus remained practically the same as last year.

The volume of goods traffic during the year on Class I Railways, stated in terms of net ton miles, showed an increase of 11·5 per cent over the preceding year. Here also, the figures for Class I Railways, excluding the Bikaner, Eastern Punjab, Assam and East Indian (N.G.), have touched a higher level than ever before. An analysis of the movements during the year shows the composition of goods to be 40·5 per cent under coal, 10·4 per cent under foodgrains and pulses, 2·1 per cent under oilseeds and 47·0 per cent under 'other commodities'. In 1948-9 coal accounted for 42·8 per cent, foodgrains, pulses and oilseeds combined for 13·7 per cent and other commodities for 43·5 per cent. Thus, quite apart from the effects of the revised goods rates structure, the change in the composition of the traffic from the lowest rated group, coal, to the commodities included in the other two higher-rated groups, has helped to increase the average amount earned per ton per mile from 9·34 pies in 1948-9 to 10·1 pies in 1949-50.

Turning to the operating aspect, Indian Railways during the year have on the whole done better than they did in 1948-9. The performance during 1949-50 shows improvement under several factors of working.

The train mileage run during 1949-50 records an increase of 11·45 million or 7·72 per cent over the previous year. Taking the Class I Railways, excluding the Bikaner State, Assam, Eastern Punjab and East Indian (N.G.), the train mileage on passenger and goods services exceeded the pre-war level by 1·17 and 15·1 per cent respectively.

During the year, there has been an appreciable improvement in the punctuality of passenger trains.

As regards goods services, greater efficiency is shown under several operating averages. As compared with 1948-9, the transportation effected by wagons per day, as shown by the net ton mileage per wagon day, improved from 358 to 402 on the broad gauge and 171 to 180 on the metre gauge. Though the net freight carried per train on broad gauge decreased by 7 tons, net ton miles per locomotive day both on line and in use show increases. On the metre gauge, improvement is noticed under both factors.

The average number of engines in use daily during 1949-50 rose by 3·94 per cent on the broad gauge and by 5·27 per cent on the metre gauge as compared with 1948-9. The work performed by locomotives also reflects a general improvement. The percentages of engines under or awaiting repairs showed a slight improvement from 21 to 20 on the broad gauge and from 19 to 17 on the metre gauge.

3. Railways and the Legislature.—The Railway Budget for 1950-1 as approved by the Standing Finance Committee for Railways was presented to the Parliament on 21 February 1950. The General discussion on the budget proposals took place in the House on 23 and 24 February 1950. The vote on Demands for Grants was taken on 27 February and 1 and 2 March, 1950.

The discussion covered a variety of subjects. The more important of these were, the Report of the Railway Convention Committee ; reorganization and regrouping of Railways ; amenities for passengers, specially Class III ; facilities for reservation of accommodation for Class III passengers ; amelioration of conditions of railway labour ; working of the Joint Advisory Committee and construction of a railway line between Pathankot and Jammu.

Twenty-four cut motions were moved to discuss general policy. These covered a wide ground, as may be seen from the subjects they referred to, namely, reorganization of the Railway Board and the railway system ; labour welfare measures ; reconstruction of the Gandak Bridge ; failure to connect Chamarajanagar and Mettupalaiyam ; necessity to connect Pathankot and Jammu Tawi ; construction of Chittorgarh-Kotah Line ; *Janata* Express on Howrah-Puri line ; non-representation of Oriyas on the Bengal Nagpur Railway and establishment of a workshop in Orissa ; Class III waiting hall at Kotdwara ; replacement of coaches of the Ahmedpur-Katwa Railway and provision of amenities to passengers ; overcrowding on the Bengal Nagpur Railway ; restoration of Nilambur-Shoranur line ; need for connecting Hassan-Mangalore-Malpe ; slow speeds of trains and ticketless travelling, etc., on the Assam Railway ; restoration of Jaunpur-Sultanpur Railway line ; inadequacy of railways in Travancore-Cochin State ; remodelling of Madura Junction ; shuttle train between Buxar and Patna ; Madhepura-Murliganj Railway line ; amenities to passengers on the Bombay, Baroda and Central India Railway ; *Janata* Express on Madras-Trivandrum line ; disabilities of railway staff ; fuel economy and amenities to Class III passengers.

The cut motions were after discussion either withdrawn or not pressed.

Out of a total number of 3,030 questions asked in Parliament during the year, 293 or about 10 per cent related to the Ministry of Railways. A wide range of topics formed the subject matter of these interpellations, such

as, measures to prevent railway accidents, anti-corruption drive, amenities to passengers, manufacture of locomotives at Chittaranjan, and the new passenger classification on railways, etc.

4. Standing Finance Committee for Railways.—The Standing Finance Committee for Railways met eight times during the year. It scrutinized, as usual, Government's proposals for Capital and Revenue Expenditure to be incurred during 1950-1 prior to their being placed before the Parliament.

These proposals included the construction of a broad gauge line between Mukerian to Pathankot, metre gauge lines between Kandla to Deesa, Arantangi to Karaikudi and branch lines to serve the Rajnagar and West Jhagra Khund Collieries and from Champa to Korba. Among items considered by the Committee were: the purchase of locomotives, machinery and plant, permanent way materials, locomotive spares and duplicate parts from foreign countries, establishment of a coach-building factory in India, provision of fans and train lighting facilities in coaches, construction of a loco shed and a goods and marshalling yard at Alipur Duar, installation of a creosoting plant at Clutterbuckganj, the purchase of the Parlakimedi Light Railway, remodelling of Tiruvarur Junction and development of the broad gauge and metre gauge transhipment facilities at Sakrigali Manihari Ghats.

The Committee also approved of the creation of permanent Class I posts for the Locomotive Works at Chittaranjan and changes in the scope of the Betterment Fund.

5. Central Advisory Council for Railways.—The Central Advisory Council for Railways met five times during the year and the Hon'ble Minister for Railways presided over all the meetings. A number of important subjects came up for discussion at these meetings and the members continued to evince an active interest in the general working of Railways.

Among the several important subjects considered at these meetings of the Council were those relating to the constitution and functions of the Local Advisory Committees on Railways, the policy relating to catering on Indian Railways and the classification of passenger accommodation. Other specified subjects, brought up by individual members, such as, reports on unpunctual running of trains, Hindi version of captions on sign boards at railway stations, etc., were investigated on the recommendation of the Council and suitable action was taken by the Railway Board wherever necessary.

6. Local Railway Advisory Committees.—The Constitution of Local Railway Advisory Committees was revised during the year. These committees were established in 1922 as a result of the Acworth Committee's recommendations. The standard constitution of these Committees, as then laid down, was as follows :—

The Agent as *ex-officio* Chairman

Two Local Government members nominated by the Local Government in whose jurisdiction the headquarters of the railway in question was situated

Three representatives of the Legislative Council of the Government in whose jurisdiction the headquarters of the railway in question was situated, the members being selected to represent rural interests and the travelling public

One member from the local municipality or corporation at the Railway headquarters

Five members representing industries, commerce and trade

One member representing the Central Advisory Council for Railways.

The question whether Local Railway Advisory Committees ought to be reorganized in the light of altered conditions resulting from the political changes and with due regard to what the Kunzru Committee had to say on the subject, was examined by the Railway Board and considered by the Central Advisory Council for Railways at a meeting held on 16 October

1949. The Central Advisory Council for Railways, *inter alia,* recommended the following revised constitution for Local Advisory Committees :—

Two Provincial representatives nominated by the State Government or one for each State Government whichever is larger ;

Two elected representatives of the State Legislature or one representative of the Legislature of each State whichever is larger ;

Three representatives of Chambers of Commerce as recommended by State Governments ;

Two representatives of Passenger Associations recognized by Railway Administrations and elected by the executives of the Associations ;

One representative elected by the Central Advisory Council for Railways ;

One representative to represent special interests not otherwise represented and nominated by the Administrations ;

and the General Manager of the Railway.

The Government of India accepted these recommendations and instructed Railways to implement them.

Sixty-seven meetings of Local Advisory Committees on various Indian Government Railways were held during the year as compared with 55 meetings during the previous year.

Among the more important subjects of general interest discussed at these meetings, were the following:—

(1) improvement in train services and train timings ;
(2) passengers travelling without tickets ;
(3) vending and catering—periodical revision of charges and inspection by railway doctors of foodstuffs offered for sale to the travelling public ;
(4) prompt settlement of claims ;
(5) lighting arrangements in trains and at stations ;
(6) opening of train halts, booking windows and city booking offices ;
(7) reservation of accommodation ;
(8) supply of drinking water to passengers ;
(9) safety of passengers ;
(10) sale of literature at railway bookstalls ; and
(11) additional facilities for the travelling public.

7. **Amenities for the public.**—The measures taken during the year to improve the conditions of rail travel are referred to in detail in Chapter VIII.

As reduction in overcrowding in trains was the first and most important consideration, special measures were taken to effect substantial improvement, such as provision of additional coaches and running extra trains, including certain trains operated between principal stations exclusively for Class III passengers.

The Class III bogies set apart for long distance passengers appear to have produced favourable reactions from passengers. Some railways placed on this service the new type of light construction coaches fitted with fans.

Facilities for reserving seats in Class III compartments were available to a limited extent on certain trains.

Notwithstanding the difficulties in obtaining adequate supplies of electrical fittings, most railways improved substantially their arrangements for train and platform lighting.

Progress was made in the provision of fans in waiting halls and covered platforms, and in Class III compartments.

The campaign to improve hygienic conditions, both in carriages and in station premises, was continued.

Safety of passengers, specially women passengers, was another important matter given careful attention. The safety catches in compartments were regularly tested to ensure proper maintenance and considerable progress was made in fitting iron bars to the windows of lavatory compartments. Where necessary, armed escort was provided.

Considerable improvement was effected in arrangements for the supply of drinking water to passengers. Experiments with water coolers for the supply of cooled water during hot weather months proved popular and these arrangements were maintained at several important stations.

8. Staff.—Information relating to developments concerning staff during the year are summarized below:

(*a*) The Joint Advisory Committee for Railways, consisting of representatives of organized labour and the Railway Board with an independent Chairman nominated by the Ministry of Labour, which was appointed in May 1948 to deal with the anomalies arising out of the implementation of the recommendations of the Central Pay Commission, and with labour relations on Indian Government Railways, dealt with 90 issues and made 36 recommendations. Of these 16 were accepted *in toto* and three in a modified form ; three were rejected and 14 were under consideration at the end of the year. Orders were issued to Railway Administrations on the recommendations which were accepted.

(*b*) The Government agreed to extend to the Indian National Railway Workers Federation, a body affiliated to the Indian National Trade Union Congress, the same facilities as have been allowed to the All-India Railwaymen's Federation for representation of matters concerning railway staff. As usual, meetings were held by the Railway Board with the All-India Railwaymen's Federation during the year, and a meeting was held with the Indian National Railway Workers Federation also. At these meetings were discussed questions relating to the fixation of pay of staff in prescribed scales, revision of dearness allowance, and terms and conditions of employment of staff of the *ex*-Indian State Railways on their integration with the erstwhile Indian Government Railways.

(*c*) The Central Pay Commission's recommendations in connection with the leave rules were implemented.

(*d*) Membership to the State Railway Provident Fund was thrown open to temporary railway staff who had completed one year's continuous service. The temporary staff are now almost on par with permanent staff in respect of provident fund benefits, leave rules, etc.

(*e*) In pursuance of the orders issued by the Railway Board in 1948, 72,820 temporary posts were made permanent and 137,386 temporary staff were confirmed.

(*f*) The Railway Services (Safeguarding of National Security) Rules, 1949, were promulgated in order to enable Government compulsorily to retire from service, or terminate the services of, a railway servant who was reasonably suspected to be engaged in subversive activities, or associated with others in subversive activities, and whose retention in service was considered to be prejudicial to national security.

The relations between the Railway Administrations and labour continued to be generally cordial during the year. The number of man-days lost on account of strikes was approximately 0·004 per cent of the total number of man-days worked during the year.

The total number of staff of all grades (gazetted and non-gazetted) employed on the Open Lines of Indian Government Railways, including

Assam and Eastern Punjab Railways decreased from 844,981 on 31 March 1949 to 814,805 on 31 March 1950. The number of staff of all grades (gazetted and non-gazetted) employed on constructions increased from 1,329 to 1,369. The total cost of staff was Rs. 1,00,50,18,402 a decrease of Rs. 31,09,885 over the figure for the preceding year.

Consequent upon the merger of Baroda with Bombay, the staff of the Gaekwar Baroda State Railway came under the administrative control of the Ministry of Railways with effect from 1 May 1949. A committee was set up for the equation of the non-gazetted posts to those in the Central Pay Commission scales and also to evolve a formula for determining the seniority of the staff of the Gaekwar Baroda State Railway *vis-â-vis* Bombay, Baroda and Central India Railway's staff. The Committee submitted its report in January 1950 and orders have since been issued to give effect to the recommendations of the Committee.

A Selection Committee was also appointed for determining the suitability of the Officers of the Gaekwar Baroda State Railway for absorption in railway services and the recommendations of the Committee are under consideration of Government.

The Government also decided to apply the Central Pay Commission scales and the Central Government conditions of service to the staff of the *ex*-Gaekwar Baroda State Railway who were given the option to retain their existing scales of pay if they so chose.

9. Security measures on Railways.—In 1949, the strength of the Railway Protection Police was about 4,800 including all ranks. The need for continuing the force was reviewed periodically, but in view of the fact that the incidence of crime on Railways had not declined sufficiently to justify a substantial reduction, the strength of the force has had to be maintained at the figure stated.

Measures to ensure that security fastenings in compartments were maintained in order continued to be taken during the year under report, an intensive drive being especially carried out during the month of June 1949. Railways were asked to provide window bars to Class I and Class II special compartments and women's compartments of third class coaches.

10. Publicity and public relations.—The machinery set up to deal with matters connected with public relations and publicity on railways and in the Railway Board's Office was reorganized during the year. In the Board's Office, the work was entrusted to a Deputy Director. On railways the posts of Joint Public Relations Officers in Calcutta, Madras and Bombay, were made Senior scale charges; and other Public Relations Officers' posts Junior scale.

A conference of Public Relations Officers was convened at New Delhi in January 1950, in order to examine advertising tariffs and practices on the railways in order to bring about uniformity as a first step towards developing commercial advertising in railway sites.

The Railway Board published three illustrated pamphlets during the year, namely, *The Railway Workers in India, Ticketless Travel,* and *Towards Better Conditions of Travel.* A statistical survey in the form of charts and graphs depicting railway activities during the last decade was also prepared and published. An illustrated brochure on the Assam Rail Link was published by the Engineer-in-Chief, Assam Rail Link Project.

Indian Railways participated in two important exhibitions during the year—the Engineering Exhibition at Roorkee in November 1949, and the All-India Manufacturers' Industrial Exhibition at Delhi in March 1950.

11. Complaints.—The Complaints Organization for keeping watch on the prompt disposal of complaints from the public continued to function. During the year ending 31 March 1950, 22,864 complaints were received and dealt with by Railway Administrations. The Public Relations Branch in the Railway Board's office dealt with 4,135 complaints. All complaints were investigated and where substantiated disciplinary action was taken.

12. Floods and cyclones.—Considerable damage was done to railway property during the year as a result of heavy rain, floods and cyclones. All railways, with the exception of the South Indian Railway, were affected. Details of the damage caused by such natural causes as these are shown in paragraph 73 of Chapter IV of this report.

13. Acquisition of Company Railways by Government.—In pursuance of the decision of the Government, mentioned in paragraph 13 of the last report, the contract of the Mayurbhanj Railway was terminated on 31 March 1950. Government also acquired, on 1 February 1950, the Parlakimedi Light Railway, a narrow gauge line, 56·30 miles long, which was the property of the Maharaja of Parlakimedi and was being worked on his behalf by the Bengal Nagpur Railway.

14. Taking over of certain States Railways during 1949-50.—During the year, in consequence of the merger with the Provinces of the following Indian States, the railway lines belonging to these States, as noted against each, came to vest in the Government of India—the functional successors to the States in the 'Federal' field :—

State	Railways
Baroda	Gaekwar Baroda State Railway
Baria	Piplod Devgad Baria Railway
Cambay	Tarapur Cambay Railway
Cooch Behar	Cooch Behar State Railway
Kolhapur	Kolhapur State Railway
Palanpur	Palanpur Deesa Railway
Rajpipla	Rajpipla State Railway
Sangli	Sangli State Railway

With the constitution of the Bhopal and the Cutch States into Centrally Administered Areas, the Bhopal-Parbati Railway and the Cutch State Railway were also similarly taken over by the Government. All these lines have increased the route mileage of the Government Railways by about a thousand miles.

15. Railway Rates Tribunal.—The Indian Railways (Second Amendment) Act, 1948, setting up the Railway Rates Tribunal came into effect on 4 April 1949. The Secretary of the Tribunal took up his duties on 9 April 1949, and the President assumed duties on 11 April 1949. The headquarters of the Tribunal are located at Madras. The rules governing practice and procedure, and generally for the effective discharge of its functions, framed by the Railway Rates Tribunal, were notified and published in the Government of India Gazette on 22 October 1949 and took effect from 1 November 1949.

Both prior and subsequent to the notification of the Railway Rates Tribunal Rules, enquiries from the public were received and considered by the Tribunal. A number of complaints of specific grievances were made by letter instead of in accordance with the prescribed procedure. After the complainants were informed that the Tribunal could take cognizance of complaints only if they were presented in accordance with the rules no formal complaint was filed.

16. Implementation of decisions for division of rolling-stock between India and Pakistan.—The Stores Sub-Committee (Railways) met only once in May 1949, during the year. At this meeting outstanding points were discussed and certain decisions were reached in the matter of exchange of stock. Progress made by the Balancing Committees in dividing the assets wherever it was pending was also reviewed. In August 1949, there was difference of opinion between the Eastern Punjab and North Western Railways on the interpretation of the decisions of the Sub-Committee and further exchange of coaching and other stock was stopped. It was proposed to hold a meeting of the Stores Sub-Committee in December 1949 to settle the points of disagreement as also to decide other outstanding issues. No meeting could be held as Pakistan could not fix a date. The outstanding issues have been taken up with the Pakistan Government through correspondence as far as possible,

but no reply had been received from Pakistan up to 31 March 1950. No further progress in the implementation of decisions for the division of stock could, therefore, be made after August 1949.

17. Effect of Partition—Absorption of India-opted staff of the old B. A. and North Western Railways.—Most of the problems raised by the large scale transfer of railway staff between the two countries had been solved before this year. The main outstanding issues related to the determination of the status of *ex*-North Western and Bengal and Assam Railway staff *vis-â-vis* other staff. One obstacle in the way of finalizing this has been the lack of complete records. Even now the service records of about 13,000 employees are still to be received from Pakistan. Orders had been issued in August 1948 laying down principles for the fixation of relative seniority of the staff. The application of those orders raised a number of difficulties, which are under consideration. The question of pay scales to be applied in the case of pre-1931 staff of the two railways also remains to be settled.

18. Loss of man-days as a result of strikes.—The total number of man-days lost as a result of strikes in workshops, running sheds and other similar establishments of Indian Government Railways during 1948-9 and 1949-50 was approximately 0·2 per cent and 0·004 per cent respectively of the total number of man-days worked. The number of man-days worked during the years 1948-9 and 1949-50 totalled 121,789,498 and 127,029,324 and the man-days lost owing to strikes amounted to 220,103 and 4,853 respectively.

The details of the total number of man-days worked during the years 1948-9 and 1949-50 and the number of man-days lost by Railways in consequence of strikes are summarized in the following tables:—

NUMBER OF MAN-DAYS WORKED AND LOST THROUGH STRIKES DURING 1948-9 AND 1949-50.

Railways	Year	No. of man-days worked	No. of man-days lost owing to Legal Strikes	No. of man-days lost owing to Illegal Strikes
Assam	1948-9	8,024,473	..	38,366
	1949-50	**18,133,321**	..	**1,017**
B. N.	1948-9	5,838,000	..	57,097
	1949-50	**8,742,891**	..	**1,261**
B. B. & C. I.	1948-9	7,974,818	8	7,971
	1949-50	**12,177,194**	..	**386**
E. I.	1948-9	55,098,698	..	13,011
	1949-50	**54,076,677**	..	**1,690**
E. P.	1948-9	14,669,110	..	100
	1949-50	**3,454,490**	..	..
G. I. P.	1948-9	13,670,549	4,785	42,220
	1949-50	**14,290,254**	..	**397**
M. & S. M.	1948-9	6,211,188	..	3,146
	1949-50	**6,502,700**	..	**48**
O. T.	1948-9	6,162,393	..	8,613
	1949-50	**5,188,596**	..	..
S. I.	1948-9	4,140,269	..	44,786
	1949-50	**4,328,603**	..	**54**
L. M. W.	1948-9	..	..	..
	1949-50	**134,598**	..	..
TOTAL	1948-9	121,789,498	4,793	215,310
	1949-50	**127,029,324**	..	**4,853**

CHAPTER II

FINANCIAL RESULTS

19. Monsoon conditions and agricultural situation, 1949-50.—The south west monsoon this year broke earlier than usual. During the monsoon period, the amount of rainfall received was 20 per cent to 25 per cent below normal in Madhya Pradesh, Bhopal and Orissa, and either normal or in excess of it elsewhere. The post-monsoon rainfall was normal, except in east Uttar Pradesh, Madhya Pradesh, Vindhya Pradesh, Madhya Bharat, Bhopal, north Hyderabad, Bihar and Orissa where excessive rains were received in October. Except in Uttar Pradesh and Hyderabad, excessive rains did not cause any lasting damage to crops. The October-end cyclone in Andhra and the failure of north east monsoon adversely affected the *kharif* outturn in Madras Hyderabad, and Bombay. For *rabi* crops, the main disturbing factors were the heavy rains in east Uttar Pradesh affecting the first sowings, and the hailstorm in Madras. The windstorm in April affected the crops, especially gram, ready for harvesting in parts of the Punjab, Uttar Pradesh, Madhya Pradesh, and Bombay.

Taking the year as a whole, the rainfall was in excess of the normal in Uttar Pradesh, Bihar, Berar, west Madhya Pradesh, north Hyderabad and coastal Andhra Desha ; below normal in Punjab, east Rajasthan, Tamilnad and West Bengal and about normal elsewhere.

There was a general increase in both acreage and yield of principal crops. The increase was significant in the case of yield of millets, edible oilseeds and fibres (cotton and jute) owing to favourable weather conditions at sowing time in 1949-50 as compared with the previous year in the case of millets and edible oilseeds, and to better seasonal conditions and extension of cultivation in the case of fibres. There was an appreciable decrease in production under gram in almost all the States which was attributed to adverse seasonal conditions such as cold wave, frost, hailstorm, etc., near about harvesting time. While there was a decrease in both area and yield under sugarcane in Bombay and Hyderabad, owing to low prices of *gur* at the sowing time, Uttar Pradesh registered an increase of 200,000 tons in yield as a result of better seasonal conditions.

According to the information available, the percentage variations in the acreage and yield under the principal crops, as compared with the previous year, are as shown in the following table.

VARIATIONS IN ACREAGE AND YIELD OF PRINCIPAL CROPS
(Increase or decrease per cent in 1949-50 over 1948-9)

Crop*	Acreage	Yield
Rice (Final)	+ 2·0	+ 0·9
Wheat (Third)	+ 3·3	+ 2·3
Jowar (Final)	+ 2·5	+14·9
Bajra (Final)	+ 7·8	+20·0
Maize (Final)	+ 4·1	+14·0
Ragi (Final)	+ 5·5	− 0·5
Barley (Final)	− 0·6	+ 1·0
Gram (Final)	− 1·2	−14·7
Sugarcane (Final)	− 4·0	− 1·8
Sesamum (Supplementary)	− 0·6	+13·8
Groundnut (Final)	+ 5·8	+17·4
Rape and Mustard (Second)	− 2·4	...
Linseed (Second)	− 1·2	...
Castorseed (Final)	+ 0·6	+ 9·3
Cotton (Fourth)	+ 5·7	+26·8
Jute (Final)	+39·0	+51·7
Tobacco (Second)	− 3·3	...

* The character of the forecast is indicated within brackets.

20. Trade review.—The improvement noticeable in the foreign sea-borne trade of India during the last few years was fully maintained during the year. Imports, exports, and re-exports registered increases as compared with 1948-9.

The total value of imports of foreign merchandise rose by Rs. 17 crores or about 3 per cent from Rs. 543 crores in 1948-9 to Rs. 560 crores in 1949-50. Increases recorded were mainly under grain, pulse and flour especially wheat and rice, kerosene oil, prime movers other than electrical, fuel oil, petroleum, cotton textile machinery, electrical instruments and machinery, artificial silk piecegoods, cotton piecegoods, cotton yarn, cement, iron and steel manufactures, dates and sulphate of ammonia. There were, however, decreases under chemicals, paper, motor cars and chassis, coal tar dyes, artificial silk yarn, teakwood, raw cotton, unmanufactured tobacco, cloves, salt, unwrought tin, cotton thread for sewing and darning, milk condensed and preserved including milk cream, ale, beer and porter, and unwrought copper.

The total value of exports increased by Rs. 53 crores or 13 per cent from Rs. 416 crores in 1948-9 to Rs. 469 crores in 1949-50. The items mainly responsible for the increase were cotton piecegoods, pepper, cotton twist and yarn, tea, groundnuts, tobacco unmanufactured, skins tanned or dressed, manganese ore, linseed, cotton waste, raw wool, coir manufactures, gunny bags, raw skins, coffee, mica, wool carpets and rugs, paraffin wax, and myrobalans. Noticeable decreases were, however, recorded under gunny cloth, raw jute, raw cotton, raw hemp, castor oil, groundnut oil, lac and raw hides.

The total value of re-exports advanced from Rs. 7 crores in 1948-9 to Rs. 13 crores in 1949-50. The main items of increase were raw jute, unmanufactured tobacco and raw skins. Decreases were noticeable under cotton piecegoods, artificial silk piecegoods and raw wool.

A. FINANCIAL RESULTS OF INDIAN GOVERNMENT RAILWAYS (INCLUDING WORKED LINES)

21. Financial results of working.—The gross traffic receipts of the Indian Government Railways, including worked lines, for the year 1949-50 amounted to Rs. 236·35 crores as compared to Rs. 213·10 crores in 1948-9 or an increase of 23·25 crores.

The ordinary working expenses during the year amounted to Rs. 181·53 crores as against Rs. 160·41 crores in 1948-9, or an increase of Rs. 21·12 crores over 1948-9. The amount set apart from Revenue for the Depreciation Reserve Fund was Rs. 11·58 crores against Rs. 11·29 crores in 1948-9. Payments to worked lines as their share of net earnings amounted to Rs. 1·80 crores against Rs. 1·62 crores in 1948-9. The operating ratio, that is the ratio of working expenses (excluding Suspense, but including Appropriation to Depreciation Reserve Fund) to gross earnings was 80·96 per cent against 79·09 per cent in 1948-9.

The net result of miscellaneous transactions during the year was *minus* Rs. 3·67 crores against a receipt of Rs. 2·56 crores during 1948-9. This was due to the decision that expenditure on works other than passenger amenities, which was previously charged to Betterment Fund, should be met from Revenue as Miscellaneous Railway Expenditure. Expenditure on works costing not more than Rs. 10,000 each falling under the category of New Minor Works and originally charged to the head 'Repairs and Maintenance' was, to the extent it did not relate to passenger amenities, also allocated to Miscellaneous Railway Expenditure.

The net revenue for the year was Rs. 37·77 crores as against Rs. 42·34 crores in 1948-9, or Rs. 4·57 crores less than in the previous year.

The interest charges amounted to Rs. 23·18 crores against Rs. 22·36 crores in 1948-9, or an increase of Rs. 82 lakhs.

There was a surplus of Rs. 14·59 crores against Rs. 19·98 crores in 1948-9, or a decrease of Rs. 5·39 crores. Out of this surplus, an amount of Rs 7 crores was paid to the General Revenues and the balance of Rs. 7·59 crores transferred to the Depreciation Reserve Fund. Of the surplus of Rs. 19·98 crores relating to 1948-9, an amount of Rs. 7·34 crores was paid to General Revenues, Rs. 84 lakhs was credited to the Railway Betterment Fund and the balance of Rs. 11·80 crores to the Depreciation Reserve Fund.

As stated above, the ordinary appropriation to the Depreciation Reserve Fund was Rs. 11·58 crores and that from the surplus of the year Rs. 7·59 crores, or a total of Rs. 19·17 crores against Rs. 23·09 crores in 1948-9. The amount withdrawn during the year for renewals was Rs. 11·73 crores against Rs. 17·28 crores in 1948-9 and the net accretion to the Fund in 1949-50 was Rs. 7·44 crores against Rs. 5·81 crores in 1948-9. The balance in the Depreciation Reserve Fund at the end of the year was Rs. 109·01 crores as against Rs. 101·57 crores at the end of 1948-9. As the accounts for the pre-partition period have not yet been closed, this balance is provisional.

Against Rs. 51·68 crores in 1948-9, works expenditure during the year under review totalled Rs. 45·98 crores, of which an amount of Rs. 34·25 crores was charged to capital and the balance of Rs. 11·73 crores was met from the Depreciation Reserve Fund.

22. **Traffic Receipts.**—The total traffic receipts of the Indian Government Railways, excluding worked lines, amounted to Rs. 231·40 crores. The details are shown in the subjoined statement.

The figures given in this and subsequent paragraphs are comparable only over the years 1948-9 and 1949-50, since in the year 1947-8, the Eastern Punjab and Assam Railways did not exist during the pre-partition period and hence there are no corresponding figures covering this period included in this year's figures.

EARNINGS AND NET TRAFFIC RECEIPTS—INDIAN GOVERNMENT RAILWAYS

(In crores of rupees.)

	1947-8	1948-9	**1949-50**
Passenger earnings	66·12	84·00	**86·35**
Other coaching earnings	15·38	18·66	**17·46**
Goods earnings	81·45	108·29	**130·37**
Sundry earnings	3·44	4·09	**4·94**
Suspense	—3·26	—1·94	**—2·77**
TOTAL	163·13	213·10	**236·35**
Less earnings of worked lines	3·28	4·42	**4·95**
Net traffic receipts	159·85	208·68	**231·40**

Taking all Class I Railways together, the distribution of passenger earnings by various classes in 1949-50 was as follows :—

PASSENGER EARNINGS BY CLASSES—CLASS I RAILWAYS

(In lakhs of rupees.)

—	1947-8	1948-9	**1949-50**
First class/Class I including Air-conditioned	2,38	2,84	**3,78**
Second Class/Class II Special	5,97	5,30	**96**
Inter Class/Class II	4,06	6,25	**8,73**
Third Class	57,13	74,41	**77,71**
TOTAL	69,54	88,80	**91,18**

The details of traffic earnings of individual railways are given in Statements 3 and 6 of Volume II of this Report.

23. Working Expenses.—The working expenses of each railway are given in Statements 3 and 7 of Volume II of this Report.

A comparison of ordinary working expenses (excluding suspense) under the various heads for the year under review with those for 1948-9 is given in the statement below :—

ANALYSIS OF WORKING EXPENSES

(In lakhs of rupees)

Demand heads	1948-9	**1949-50**	Difference more than 1948-9 (+) less than 1948-9 (—)
Administration	19,37	**22,46**	+3,09
Repairs and maintenance	45,25	**67,88**	+22,63
Operating staff	25,07	**31,23**	+6,16
Operation (Fuel)	24,55	**28,36**	+3,81
Operation other than staff and fuel	8,78	**12,70**	+3,92
Miscellaneous expenses	35,76	**19,35**	—16,41
TOTAL	1,58,78	**1,81,98**	+23,20

As compared with 1948-9, there was an increase of about Rs. 23·25 crores in working expenses during 1949-50. The excesses occurred under all demand heads, except Miscellaneous Expenses, where there was a saving of about Rs. 16·5 crores. The largest excess was under Repairs and Maintenance and this amounted to about Rs. 22·5 crores. Excesses under this head occurred on all railways, the largest being on the Great Indian Peninsula (Rs. 5 crores), the Bombay, Baroda and Central India (Rs. 3 crores), the Bengal Nagpur and the Oudh Tirhut (Rs. 2·25 crores each) and the Madras and Southern Mahratta and the South Indian (Rs. 2 crores each) and the Eastern Punjab (Rs. 1·75 crores) Railways. These are accounted for mainly by the adjustment of inflationary and improvement elements in replacement costs, which, in the previous year, were charged to Capital and Depreciation Reserve Fund.

The second largest excess which amounted to about Rs. 6·25 crores was under Operating Staff. The Railways on which excesses were mainly accounted for were the East Indian (Rs. 1·25 crores), the Great Indian Peninsula (Rs. 1 crore), the Bengal Nagpur and the Bombay, Baroda and Central India (Rs. 0·75 crore each), and the Eastern Punjab, the Madras and Southern Mahratta, the Oudh Tirhut and the South Indian (Rs. 0·50 crore each) Railways.

Of the excess of about Rs. 4 crores under Operation other than Staff and Fuel, the Bengal Nagpur and the East Indian Railways were responsible for Rs. 0·75 crore each. The other railways recorded comparatively smaller excesses.

The excesses of Rs. 3,81 lakhs under Operation (Fuel) and Rs. 3,09 lakhs under Administration occurred on almost all railways. The notable increases were under Operation (Fuel) on the Great Indian Peninsula (Rs. 1 crore) and the East Indian and the Madras and Southern Mahratta (Rs. 75 lakhs each) Railways.

A saving of Rs. 16·41 crores was recorded on all railways under Miscellaneous expenses, the chief items being on the East Indian (Rs. 4·25 crores), the Great Indian Peninsula (Rs. 3·5 crores), the Bengal Nagpur (Rs. 3 crores), the Bombay, Baroda and Central India (Rs. 2·5 crores) and the Madras and Southern Mahratta (Rs. 1·25 crores) Railways.

An analysis of the financial results of the working of the Indian Government Railways showing the capital at charge, gross receipts, working expenses, net revenue receipts and interest charges, etc., by each railway for the last three years is given in the following statement.

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by Companies and Indian States	Net Government Capital-at-charge	Gross receipts	Working expenses including Suspense & Depreciation Reserve Fund	Payment to worked lines	Net Revenue Receipts	Percentage of Net Revenue Receipts on Capital-at-charge	Charge against Net Revenue Receipts: Payment on account of share of surplus profits and of Net Revenue Receipts	Charge against Net Revenue Receipts: Interest charges	Net gain or loss to Government: Gain	Net gain or loss to Government: Loss
Assam	1947-8	22,46,67	3,00	22,43,67	2,76,22	3,49,13	2,68	—75,59	—3·36	—	45,89	—	1,21,48
	1948-9	23,27,49	3,00	23,24,49	4,10,92	6,78,66	7,44	—2,75,18	—11·39	—	73,09	—	3,48,27
	1949-50	**30,50,70**	**3,00**	**30,47,70**	**4,60,13**	**8,10,16**	**5,23**	**—3,55,26**	**—11·64**	—	**95,02**	—	**4,50,28**
Assam Rail Link Project	1947-8	21,31	—	21,31	—	—	—	—	—	—	22	—	22
	1948-9	3,39,72	—	3,39,72	—	—	—	—	—	—	5,78	—	5,78
	1949-50	**6,09,70**	—	**6,09,70**	—	—	—	—	—	—	**15,09**	—	**15,09**
Bengal Nagpur	1947-8	83,67,46	—	83,67,46	19,81,23	21,45,70	2,13	—1,66,60	—1·99	—	2,72,13	—	4,38,73
	1948-9	84,50,74	—	84,50,74	24,04,74	22,42,73	1,19	1,60,82	1·90	—	2,68,95	—	1,08,13
	1949-50	**86,26,14**	—	**86,26,14**	**27,49,45**	**23,73,91**	**11**	**3,75,43**	**4·58**	—	**2,71,52**	**1,03,91**	—
Chittaranjan Locomotive Works	**1949-50**	**7,09,60**	—	**7,09,60**	—	—	—	—	—	—	**14,35**	—	**14,35**
Bombay, Baroda and Central India	1947-8	77,46,31	1,27,97	76,18,34	23,30,02	18,46,84	28,88	4,54,30	5·86	—	2,45,63	2,08,67	—
	1948-9	79,62,17	1,27,97	78,34,20	30,26,43	19,35,43	30,67	10,60,33	13·32	—	2,58,33	8,02,00	—
	1949-50	**81,14,44**	**1,27,97**	**79,86,47**	**33,80,30**	**22,04,85**	**37,41**	**11,38,04**	**14·02**	—	**2,53,15**	**8,84,89**	—
East Indian	1947-8	1,78,28,08	—	1,78,28,08	37,39,56	39,83,17	—	—2,43,61	—1·37	—	5,74,40	—	8,18,01
	1948-9	1,90,01,82	—	1,90,01,82	52,75,53	46,63,50	—	6,12,03	3·22	—	6,22,23	—	10,20
	1949-50	**1,93,93,71**	—	**1,93,93,71**	**60,32,81**	**48,01,95**	—	**12,30,86**	**6·35**	—	**6,37,95**	**5,92,91**	—
Great Indian Peninsula	1947-8	1,19,08,30	—	1,19,08,30	31,42,16	26,63,89	39,42	4,38,85	3·69	—	3,72,93	65,92	—
	1948-9	1,26,48,20	—	1,26,48,20	39,74,55	27,67,93	48,89	11,57,73	9·15	—	3,87,94	7,69,79	—
	1949-50	**1,33,55,73**	—	**1,33,55,73**	**43,51,41**	**32,18,17**	**58,69**	**10,74,55**	**8·04**	—	**4,09,58**	**6,64,97**	—
Gaekwar Baroda State (K.D., P. K. and Okhamandal Sections)	**1949-50**	**2**	—	**2**	**13,98**	**13,80**	—	**18**	—	—	—	**18**	—
Madras and Southern Mahratta	1947-8	53,97,52	—	53,97,52	18,50,70	13,25,29	9,57	5,15,84	9·56	—	1,91,09	3,24,75	—
	1948-9	54,88,15	—	54,88,15	20,44,52	16,35,74	7,20	4,01,58	7·32	—	1,90,38	2,11,20	—
	1949-50	**57,17,44**	—	**57,17,44**	**21,57,08**	**18,27,99**	**3,11**	**3,25,98**	**5·70**	—	**1,94,24**	**1,31,74**	—
Coal Department	1947-8	5,54,64	—	5,54,64	—	—	—	—	—	—	17,48	—	17,48
	1948-9	6,90,58	—	6,90,58	—	—	—	—	—	—	19,94	—	19,94
	1949-50	**7,18,63**	—	**7,18,63**	—	—	—	—	—	—	**22,41**	—	**22,41**

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by Companies and Indian States	Net Government Capital-at-charge	Gross receipts	Working expenses including Suspense & Depreciation Reserve Fund	Payment to worked lines	Net Revenue Receipts	Percentage of Net Revenue Receipts on Capital-at-charge	Charge against Net Revenue Receipts: Payment on account of share of surplus profits and of Net Revenue Receipts	Charge against Net Revenue Receipts: Interest charges	Net gain or loss to Government: Gain	Net gain or loss to Government: Loss
Oudh Tirhut . .	1947-8	37,47,01	—	37,47,01	8,87,46	13,48,92	—	—4,61,46	—12·32	—	1,13,17	—	5,74,63
	1948-9	39,34,48	—	39,34,48	11,93,13	10,15,43	—	1,77,70	4·52	—	1,23,62	54,08	—
	1949-50	**35,76,14**	—	**35,76,14**	**12,62,21**	**13,52,07**	—	**—89,86**	**—2·51**	—	**1,09,77**	—	**1,99,63**
South Indian . .	1947-8	44,27,24	80,47	43,46,77	15,31,30	9,78,67	42,88	5,09,75	11·51	—	1,29,26	3,80,49	—
	1948-9	45,20,58	80,47	44,40,11	15,83,71	12,00,05	25,82	3,57,84	7·91	—	1,33,97	2,23,87	—
	1949-50	**46,43,30**	**80,47**	**45,62,83**	**16,86,56**	**14,39,37**	**25,30**	**2,21,89**	**4·71**	—	**1,33,71**	**88,18**	—
Eastern Punjab .	1947-8	44,52,12	—	44,52,12	5,48,53	5,04,56	8,01	35,96	·81	—	90,81	—	54,85
	1948-9	46,68,98	—	46,68,98	13,46,65	10,08,80	41,18	2,96,67	6·35	—	1,48,50	1,48,17	—
	1949-50	**49,41,20**	—	**49,41,20**	**14,65,34**	**11,95,77**	**50,43**	**2,19,14**	**4·44**	—	**1,55,66**	**63,48**	—
Darjeeling Himalayan	1947-8	—	—	—	—	—	—	—	—	—	—	—	—
	1948-9	1,10,08	—	1,10,08	29,47	41,29	—	—11,82	—10·74	—	1,76	—	13,58
	1949-50	**1,11,19**	—	**1,11,19**	**29,85**	**44,34**	—	**—14,49**	**—13·04**	—	**3,52**	—	**18,01**
Bezwada Extension and Dhone Kurnool.	1947-8	46,19	—	46,19	26,11	13,76	—	12,35	26·74	—	1,50	10,85	—
	1948-9	46,19	—	46,19	20,87	15,79	—	5,08	11·00	—	1,48	3,60	—
	1949-50	**46,25**	—	**46,25**	**45,25**	**33,68**	—	**11,57**	**25·00**	—	**1,47**	**10,10**	—
Others . . .	1947-8	—	—	—	—	39,97	—	—39,97	—	—	—19	—	39,78
	1948-9	—	—	—	—	—35,05	—	35,05	—	—	—47	35,52	—
	1949-50	—	—	—	—	**—5,57**	—	**5,57**	—	—	**—21**	**5,78**	—
Interest on Depreciation Reserve Fund balances.	1947-8	—	—	—	3,79,13	—	—	3,79,13	—	—	—	3,79,13	—
	1948-9	—	—	—	3,36,16	—	—	3,36,16	—	—	—	3,36,16	—
	1949-50	—	—	—	**3,55,53**	—	—	**3,55,53**	—	—	—	**3,55,53**	—
Net Miscellaneous Receipts and charges not attributable to any one Railway.	1947-8	—	—	—	—	—	—	—	—	—	—	—	54,84
	1948-9	—	—	—	—	—	—	—	—	—	—	—	80,32
	1949-50	—	—	—	—	—	—	—	—	—	—	—	**7,22,54**
TOTAL (CENTRAL) .	1947-8	6,67,42,85	2,11,44	6,65,31,41	1,66,92,42	1,51,99,90	1,33,57	13,58,95	2·04	—	20,54,32	—	*7,50,21
	1948-9	7,01,89,18	2,11,44	6,99,77,74	2,16,46,68	1,71,70,30	1,62,39	43,13,99	6·15	—	22,35,50	*19,98,17	—
	1949-50	**7,36,14,19**	**2,11,44**	**7,34,02,75**	**2,39,89,90**	**1,93,10,49**	**1,80,28**	**44,99,13**	**6·11**	—	**23,17,23**	***14,59,36**	—

*Net gain or loss has been arrived at after taking into account the net figures of miscellaneous transactions adjusted centrally.

24. Losses and gains.—Gains and losses on the Railways for the three years by each railway are also given in a comparable form in the statement appended.

(In lakhs of rupees.)

	1947-8	1948-9	1949-50
Assam	−1,21	−3,48	**−4,50**
Bengal Nagpur	−4,39	−1,08	**1,04**
Bombay, Baroda and Central India	2,09	8,02	**8,85**
Darjeeling Himalayan	...	−14	**−18**
East Indian	−8,18	−10	**5,93**
Eastern Punjab	−55	1,48	**63**
Great Indian Peninsula	66	7,70	**6,65**
Madras and Southern Mahratta	3,25	2,11	**1,32**
Oudh Tirhut	−5,75	54	**−2,00**
South Indian	3,80	2,24	**88**

Three railways show losses during 1949-50, namely, the Assam, Darjeeling Himalayan and Oudh Tirhut Railways.

25. Railway Betterment Fund.—The fund opened with a balance of Rs. 13,32 lakhs on 1 April 1949. The appropriation made to this fund during the year was Rs. 43 lakhs on account of interest accrued on balances. The expenditure met from this fund during the year was *minus* Rs. 5 lakhs and the closing balance of the fund on 31 March 1950 amounted to Rs. 13,80 lakhs.

The rules for the classification of expenditure were revised from 1 April 1949. Under these rules, Betterment Fund is to be debited with expenditure, irrespective of monetary limit, whether on works of replacement or additions connected with amenities for passengers only, and expenditure on works relating to amenities for staff and unremunerative operating improvements costing not more than Rs. 3 lakhs each previously debitable to Betterment Fund are now to be debited to Open Line Works Revenue. Expenditure incurred during 1948-9 on these works in progress on 1 April 1949 was written back from Betterment Fund to Open Line Works Revenue in the accounts of the year 1949-50.

26. Revision of Railway Separation Convention.—In April 1949, the Constituent Assembly (Legislative) agreed to constitute the Railway Convention Committee. Nine non-official members were elected to serve on the Committee, with the Hon'ble Minister-in-charge of Transport and Railways and the Hon'ble Minister-in-charge of Finance as *ex-officio* chairman and member respectively.

The terms of reference of the committee were to review the working of the convention adopted under the Central Legislative Assembly's Resolution, dated 20 September 1924 for the separation of Railway from General Finances and to examine the constitution and administration of the Railway Depreciation Reserve Fund, the Railway Betterment Fund and the Railway Reserve Fund, as well as other ancillary matters.

The Constituent Assembly (Legislative) after due consideration of the recommendations of the Railway Convention Committee adopted a Resolution on 21 December 1949. The text of the resolution is reproduced *in extenso* in Appendix A.

The main provisions of this resolution are readily indicated. Firstly, for the quinquennium commencing from 1 April 1950, General Revenues are to be paid an annual dividend of 4 per cent on the capital invested in other than strategic lines. Secondly, an annual contribution of not less than Rs. 15 crores should be made to the Depreciation Fund and that a Development Fund should be constituted to finance expenditure on :

(*a*) passenger amenities,

(*b*) labour welfare, and

(*c*) railway projects which are necessary, but unremunerative.

B. GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS

27. **Analysis of earnings.**—The total earnings for the year 1949-50 of all Class I, II and III railways falling in the Indian Union, including those in which the Government of India have no financial interest, amounted to Rs. 258·31 crores, of which Rs. 135·70 crores or 52·5 per cent was from goods traffic, Rs. 95·23 crores or 36·9 per cent from passenger traffic and Rs. 27·38 crores or 10·6 per cent from parcels, luggage and other miscellaneous sources of revenue.

28. **Traffic and mileage.**—The more important figures of traffic on all Indian railways are summarized in the table below for the years 1947-8 to 1949-50. The progressive increase in the volume of traffic carried over the years is seen from this statement. The figures of railways other than Class I Railways record a slight decrease, which, however, is not reflected in the total for all railways.

STATISTICS OF TRAFFIC ALL INDIAN RAILWAYS

—	Year	Class I railways	Other railways	Total of all railways
Total route mileage	1947-8	30,340·89	3,643·99	33,984·88
	1948-9	30,125·49	3,735·36	33,860·85
	1949-50	**31,010·37**	**3,011·92**	**34,022·29**
Passengers originating (in millions)	1947-8	981	63	1,044
	1948-9	1,114	71	1,185
	1949-50	**1,195**	**60**	**1,255**
Passenger miles (in millions)	1947-8	32,149	1,500	33,649
	1948-9	37,129	1,688	38,817
	1949-50	**38,465**	**1,556**	**40,021**
Tons originating (in millions)	1947-8	70	3	73
	1948-9	79	4	83
	1949-50	**88**	**4**	**92**
Net ton miles (in millions)	1947-8	20,117	282	20,399
	1948-9	22,387	363	22,750
	1949-50	**25,119**	**342**	**25,461**

29. **Passenger earnings.**—In comparison with 1948-9, passenger earnings on all Indian railways increased by about Rs. 2·12 crores, an increase of 2·28 per cent, the number of passengers carried increased by about 70 millions, an increase of 5·91 per cent and passenger miles increased by about 1,204 millions, an increase of 3·10 per cent.

The earnings of all Indian railways from passenger traffic for the three years 1947-8 to 1949-50 are summarized in the table below:—

(In lakhs of rupees.)

	1947-8	1948-9	1949-50
First Class/Class I (including Air-conditioned)	2,42	1,88	4,02
Second Class/Class II Special	6,22	6,52	96
Inter Class/Class II	4,08	6 30	8.81
Third	60,54	78,41	81,44
Total	73,26	93,11	95,23

It should be stated that the figures for 1947-8 are not strictly comparable with those of the succeeding two years as they include the figures of the Eastern Punjab and Assam railways with effect from only 15 August 1947, the date on which they came into existence. Comparing the passenger earnings of the two years 1948-9 and 1949-50, a large variation in the figures of the upper

classes may be observed. This is to be ascribed mainly to the changes in the passenger classes which have affected the figures of the two years. With the exception of the Second Class/Class II Special, all the other classes record substantial increases in earnings. The reason for the decrease in the Second Class/Class II Special during 1949-50 is that it was restored only with effect from 1 December 1949 and that it was not in existence during the preceding eight months.

Variations in the passenger traffic and earnings of the Budget lines are indicated below.

VARIATIONS IN PASSENGER TRAFFIC AND EARNINGS, BUDGET LINES

Railways	Increase (+) or decrease (—) as compared with 1948-9	
	Passengers carried in millions	Earnings in lakhs Rs.
Assam	+3·3	+49
Bengal Nagpur	+5·7	+32
Bombay, Baroda and Central India	+30·4	+61
East Indian	+7·3	—5
Eastern Punjab	+10·5	—2
Great Indian Peninsula	+23·7	+50
Madras and Southern Mahratta	+4·3	+15
Oudh Tirhut	—8·1	—4
South Indian	+6·2	+15

Detailed figures of the number of passengers carried, passenger miles and earnings are given in Summary X and Statements Nos. 12 and 36 of Volume II of this Report.

30. **Goods earnings.**—In comparison with 1948-9, goods earnings on all Indian railways increased by about Rs. 23·39 crores, an increase of 20·82 per cent ; tonnage of goods carried increased by about 8·9 millions, an increase of 10·8 per cent ; and each ton was carried on an average a distance of 278·00 miles as compared with 275·20 miles during 1948-9. Net ton miles showed an increase of about 2,711 millions, an increase of 11·92 per cent.

The statement below gives details of the earnings from the principal commodities carried by Class I railways during 1947-8 to 1949-50. It would be seen from this statement that barring rice not in the husk, oilseeds, salt and sugar refined and unrefined, in respect of all the other commodities, there have been more receipts from traffic carried during 1949-50 than during 1948-9.

(Figures in lakhs of rupees.)

	1947-8	1948-9	**1949-50**
Gram and pulse	2,24	4,41	**4,75**
Wheat and wheat flour	1,53	2,87	**4,05**
Rice (not in the husk)	2,64	3,69	**3,42**
Oilseeds	2,74	3,67	**3,63**
Fruits and vegetables fresh	1,45	2,12	**2,56**
Coal, coke and patent fuel for the public	8,54	12,72	**15,38**
Coal, coke and patent fuel for railways and home line construction	3,63	3,31	**3,54**
Marble and stone	78	1,56	**2,05**
Salt	3,17	3,39	**3,22**
Petrol in bulk	86	1,68	**2,07**
Wood, unwrought	1,13	1,50	**2,50**
Sugar refined and unrefined	1,61	3,25	**2,96**
Cotton manufactured	2,54	3,32	**3,76**
Cement	1,28	1,73	**3,19**
Iron and steel wrought	4,21	5,48	**8,47**
Material and store on revenue account	2.82	4,59	**7,97**

The variations in goods traffic on Budget lines are indicated below :-

VARIATIONS IN VOLUME OF GOODS TRAFFIC

(Figures in thousands.)

Railways.	Increase (+) or decrease (−) as compared with 1948-9 Tons carried.
Assam	+ 1,07
Bengal Nagpur	+22,79
Bombay, Baroda and Central India	+ 7,04
East Indian	+47,31
Eastern Punjab	+ 6,44
Great Indian Peninsula	+19,63
Madras and Southern Mahratta	+ 8,57
Oudh Tirhut	− 2,59
South Indian	+ 5,17

Detailed statistics of goods traffic are given in Summary X, Statements Nos. 13, 29 and 36 of Volume II of this Report.

31. Measures relating to statistics and statistical organization.—During the year steps were taken to reorient certain of the statistics to improve their usefulness and these statistics were under continuous review during the year.

The statistics of staff and sickness were revised and expanded during the year.

Operating statistics continued to be reviewed during the year at periodical meetings of the Operating Heads of Railways.

Measures were also taken on railways to ensure that the statistics compiled were correctly compiled and adequately used. The East Indian Railway strengthened its inspecting organization in order to ensure that statistics were prepared correctly and promptly. The Oudh Tirhut Railway, as a preliminary step to the centralization of the statistical branch, brought statistical work previously done under the Mechanical Department to the Statistical Officer. The South Indian Railway opened a Chart Room where important results were drawn and exhibited for the use of officers and staff of the railway.

CHAPTER III

TRANSPORTATION

A. OPERATING

32. **Operating, General.**—The punctuality of passenger carrying trains generally registered an appreciable improvement. The percentage of mail and through passenger trains not losing time increased from 61 to 76 on the broad gauge and from 55 to 67 on the metre gauge. Not only was the journey time of some train services reduced; in some cases the pre-war record was broken.

The number of *Janata Express* train services, providing fast service exclusively for third class passengers, was increased during 1949-50. By the end of the year, *Janata Expresses* had been provided between Delhi and Pathankot on the Eastern Punjab Railway; Delhi and Howrah on the East Indian Railway; Bombay and Baroda on the Bombay, Baroda and Central India Railway; Lucknow and Chupra on the Oudh Tirhut Railway; Madras and Mangalore and Madras (Egmore) and Trichinopoly on the Madras and Southern Mahratta and South Indian Railways; and between Howrah and Puri on the Bengal Nagpur Railway. The *Janata Express* between Howrah and Puri included also a limited accommodation for Inter class passengers.

The introduction of the Assam Link Express between Calcutta and Amingaon—with transhipment at Sakrigalighat and Maniharighat on the south and north bank of the River Ganga—supplied the much awaited train service by the All-India route, dispensing with the necessity of travel *viâ* Pakistan.

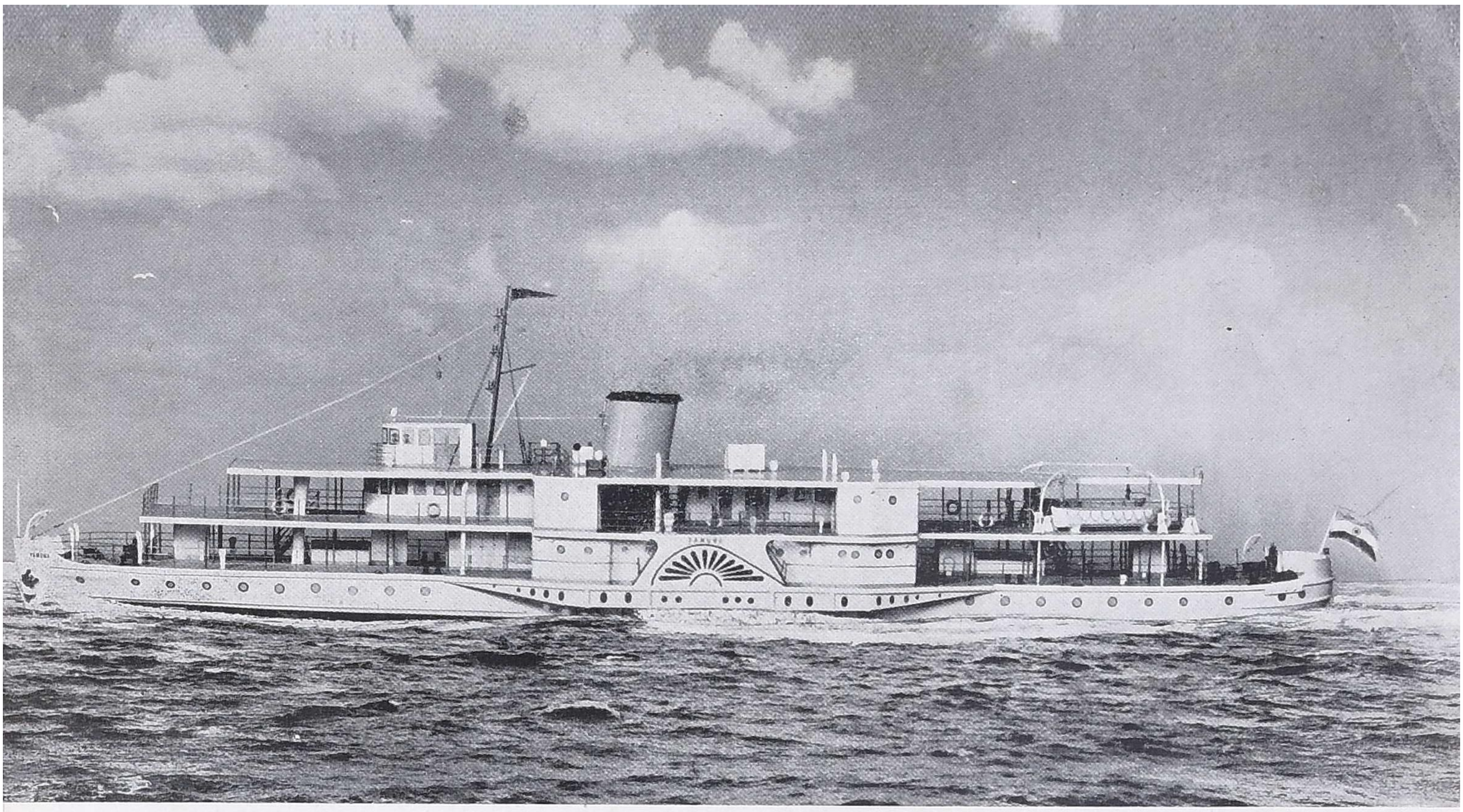
The position in respect of the transport of goods traffic on the broad gauge railways and on the southern metre gauge railways was generally easier than during the previous year. On the northern metre gauge system, however, the overall conditions of operation were comparatively difficult, mainly because demands exceeded the wagon supply. With the opening of the Assam Rail Link referred to below, the requirements of wagon stock for movement over the All-India route aggravated the difficulty despite the transfer of 400 metre gauge wagons from the southern metre gauge system to the northern metre gauge system.

With the general improvement in the movement of goods traffic, it was possible first to amalgamate the separate Priority Organization with the Railways and ultimately to discontinue it with effect from 1 April 1950.

The Assam Rail Link, providing an All-India route between Assam and North Bengal on one side and the rest of India on the other, was opened well ahead of the schedule, the date for goods traffic being 9 December 1949, and that for passenger traffic, 26 January 1950. This was most welcome, particularly because of the withdrawal of transit facilities by the Eastern Bengal Railway (Pakistan). The capacity of this section was improved rapidly. From about the beginning of January 1950, there was progressive improvement, and the essential needs of the State of Assam and other areas, to which access by rail was previously available only *viâ* Pakistan, were satisfactorily met. In order to regulate the movement of traffic *viâ* the Link, an Assam Rail Link Committee was constituted, consisting of the Chairman, Port Commissioners' Railway, Calcutta, and representatives of the East Indian, Oudh Tirhut and Assam Railways, who functioned in close liaison with the State Governments, trade and other interests.

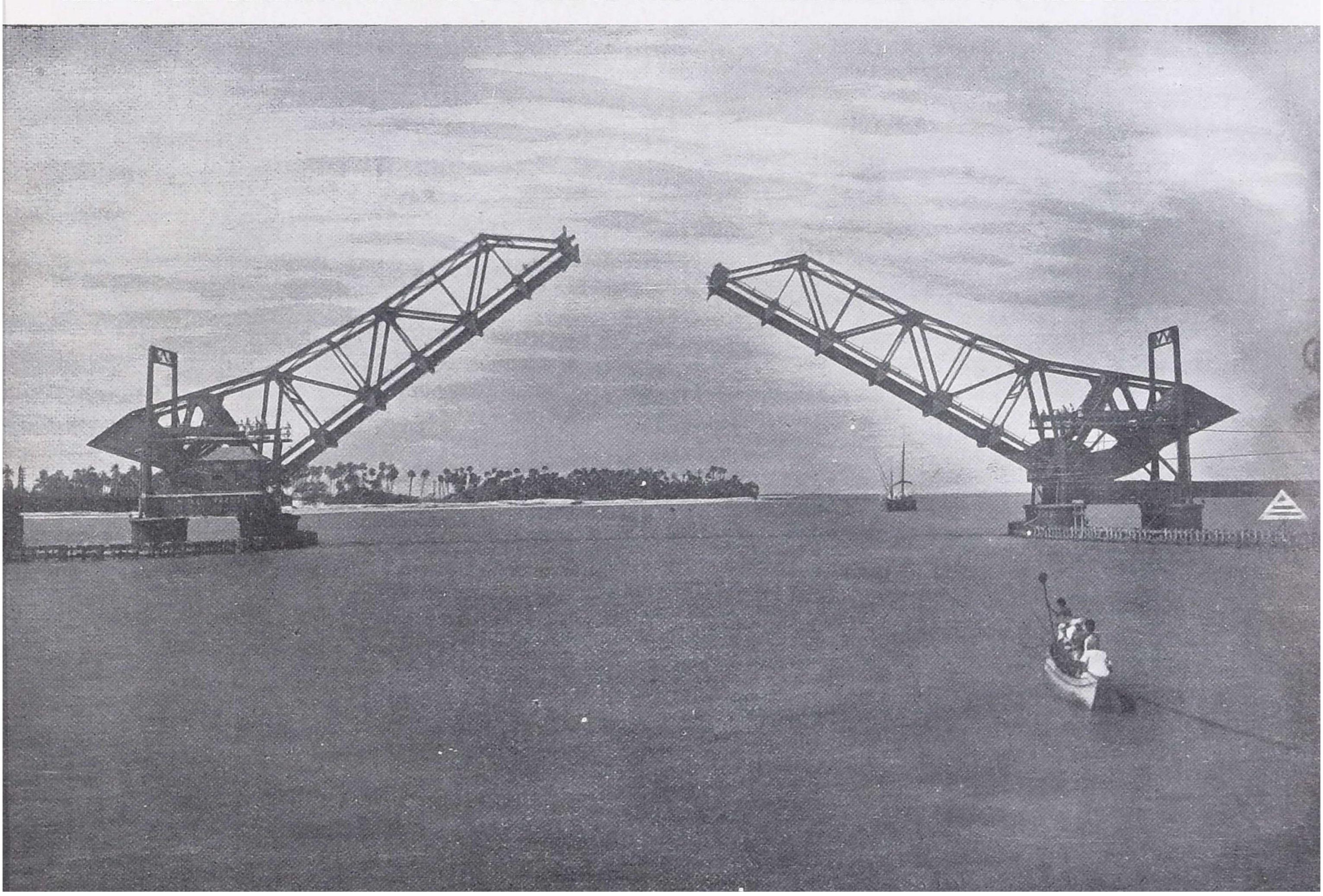
33. **Transport of coal.**—During the year, the control and the distribution of coal continued as before through the Coal Commissioner's Office under the administrative control of the Ministry of Industry and Supply.

Subject to the following observations, there was general all-round improvement in loading in various coalfields. In Pench and Chanda, and in Talcher, indents were generally met in full. This applies also to the Central



THE NEW STEAMER P. S. 'YAMUNA'

VIEW OF THE SCHERZER ROLLING LIFT BRIDGE WHEN IT IS LIFTED FOR THE PASSAGE OF BOAT



India Coalfields, though, on occasions, short allotments had to be made in this area on account of operational difficulties. Loading in Singareni also showed some improvement over the performance of the previous year.

The improvement was, however, most marked in the Bengal and Bihar coalfields. The average daily loading in these fields was maintained well above the minimum target of 2,700 wagons a day right up to the end of the year. It rose to 2,900 in November 1949, but dropped to 2,700 in the latter part of December 1949. The peak was reached in August 1949, when the loading averaged to 3,292 wagons a day—an unprecedented record. Such high figures could not, of course, be maintained subsequent to December 1949 owing to briskness of seasonal traffic in other commodities. One effect of the improved loadings in the Bengal and Bihar coalfields was that by the end of the year the stocks at pitheads were almost fully liquidated.

34. Movement of certain commodities by special trains.—Special goods trains continued to be operated during the year to carry specified commodities between certain stations. Probably with easier conditions of transport, the trade did not find it necessary to avail themselves of the facilities of special trains to the same extent as last year. This would appear to account for the percentage of the total wagon loads of traffic moved by such special trains on the broad gauge railways, declining from about 12 per cent in 1948-9 to about 6·35 per cent of the total wagon loadings, excluding coal, during the year under report.

35. Volume of traffic handled.—The all-round improvement reflected in the volume of traffic handled during 1948-9 continued during the current year. Net ton miles of goods traffic increased by 11·49 per cent over the previous year to 24,841·8 millions, and passenger traffic, in passenger miles, increased by 3·60 per cent to 38,465·0 millions. The increase as compared with the pre-war figure, excluding the Bikaner, Assam, Eastern Punjab and East Indian (narrow gauge), was no less than 159·32 per cent under passenger and 35·39 per cent under goods. The increases shown under passenger and goods services on Class I Railways are shown in the table below :—

VOLUME OF TRAFFIC CARRIED ON CLASS I RAILWAYS

NET TON MILES AND PASSENGER MILES

(Figures in millions)

	1938-9 (pre-war)	1948-9	1949-50	Increase or decrease % over 1938-9	Increase or decrease % over 1948-9
Class I Railways excluding Bikaner, Assam, E. P. and E. I. (N. G.)—					
Net ton miles‡	17,518	21,303	**23,718**	+35·39	+11·33
Passenger miles	13,359	33,509	**34,643**	+159·32	+3·38
All Class I Railways :					
Net ton miles‡	..	22,282	**24,842**	..	+11·49
Passenger miles	..	37,129	**38,465**	..	+3·60

‡ Excludes departmental.

36. Train miles.—The train mileage run during the year was 159·92 millions, an increase of 11·45 millions or 7·72 per cent over the figure for 1948-9.

TRAIN MILES RUN DURING 1949-50 COMPARED WITH 1938-9 AND 1948-9

(Figures in thousands)

	1938-9 (pre-war)	1948-9	**1949-50**	Increase or decrease % over 1938-9	Increase or decrease % over 1948-9
Class I Railways excluding Bikaner, Assam, E. P. and E. I. (N. G.)—					
Passenger (including proportion of mixed.)*	83,365	80,754	**84,344**	+1·17	+4·45
Goods (including proportion of mixed) †	52,829	54,913	**60,797**	+15·08	+10·71
All Class I Railways—					
Passenger (including proportion of mixed.)*	..	89,635	**94,387**	..	+5·30
Goods (including proportion of mixed) †	..	58,826	**65,528**	..	+11·39

*Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, the mileage of electric locomotive and electric multiple trains as well as military specials, but excludes departmental trains.

†Includes mileage of electric locomotive trains, but excludes departmental.

Passenger train miles increased during the year by 5·30 per cent to 94·39 millions, as compared with an increase of 3·60 per cent in passenger miles. Goods train miles totalled 65·53 millions, representing an increase of 11·39 per cent over the figure for the previous year, which is approximately the extent of the increase in the number of net ton miles during the year. The average freight load of goods trains remained during the year at the same level as during the previous year.

The performance during the year (exclusive of Bikaner, Assam, E. P. and E. I.-N. G. railways) as compared with 1938-9 indicates that railways carried 159·32 per cent more passenger traffic with only 1·17 per cent more of passenger train services, whilst 35·39 per cent more goods traffic was carried with an increase of only 15·08 per cent in goods train miles.

Detailed figures of train miles of Class I Railways are shown in Statements 17 and 32 and those of Class II and III Railways in Statement 37 of Volume II of this Report.

37. **Shunting miles.**—Unproductive engine miles, classified under the head 'other engine mileage', showed, during the year, a slight decline over the previous year from 24 to 23 per cent of the total engine mileage.

Shunting miles, forming the greater portion of such unproductive mileage, amounted to 15 per cent of the total engine miles as against 16 per cent during 1948-9. The following table shows the ratio per 100 train miles of passenger and goods shunting miles of Class I Railways during 1949-50 compared with 1948-9. There has been improvement in the goods shunting mileage on the broad gauge.

SHUNTING MILEAGE DURING 1948-9 AND 1949-50
CLASS I RAILWAYS

Shunting miles per 100 train miles	1948-9	**1949-50**	Increase or decrease % over 1948-9
Passenger and proportion of mixed—			
Broad gauge	6·53	**6·43**	—1·53
Metre gauge	5·51	**5·54**	+0·54
Goods and proportion of mixed—			
Broad gauge	42·99	**39·83**	—7·35
Metre gauge	44·55	**43·34**	—2·71

Other principal features of passenger and goods train operation of Class I Railways during the year have been referred to in the following paragraphs.

38. **Passenger trains.**—On the broad gauge, passenger train services increased by 4·58 per cent, the vehicle miles by 6·38 per cent and passenger miles by 3·46 per cent. The corresponding percentage increases on the metre gauge are 5·80, 8·88 and 3·63 respectively. The increase in the train miles and vehicle miles more than made up for the increase in passenger traffic, thus indicating some relief to overcrowding.

STATISTICS OF PASSENGER TRAFFIC

CLASS I RAILWAYS

(Figures in millions)

Particulars	Broad gauge		Increase or decrease % over 1948-9	Metre gauge		Increase or decrease % over 1948-9
	1948-9	**1949-50**		1948-9	**1949-50**	
Passenger miles	25,496·8	**26,379·1**	+3·46	11,226·5	**11,633·8**	+3·63
Coaching vehicle miles (including proportion of mixed)	862·2	**917·2**	+6·38	458·1	**498·8**	+8·88
Passenger train miles* (including proportion of mixed)	57·85	**60·50**	+4·58	29·66	**31·38**	+5·80

*Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, mileage of electric locomotives and electric multiple unit suburban trains as well as military specials but excludes departmental.

39. **Punctuality of passenger trains.**—Punctuality of passenger train services recorded considerable improvement during 1949-50 as compared with 1948-9 on both broad and metre gauges.

The following table shows the percentage of passenger trains not losing time to the total number of trains run on all Class I Railways during 1949-50 as compared with 1948-9.

PERCENTAGE OF PASSENGER AND MIXED TRAINS NOT LOSING TIME

Year	All trains (inc. elec. multiple unit trains)	Mail and important through trains	Mixed trains	Suburban trains	Other passenger trains
	%	%	%	%	%
Broad gauge—					
1948-9	71·30	61·47	69·35	70·94 84·01*	62·45
1949-50	**81·41**	**75·90**	**81·73**	**83·15** **89·22***	**74·34**
Metre gauge—					
1948-9	68·41	55·34	76·85	70·65 72·52†	64·31
1949-50	**76·72**	**67·33**	**80·60**	**84·79** **91·24†**	**71·52**

*Bombay, Baroda and Central India and Great Indian Peninsula Railways' electric multiple unit trains.
†South Indian Railway electric multiple unit trains.

40. **Restoration of passenger train services.**—By 1 April 1950, the passenger train services on Class I Railways, expressed in terms of train miles per day, had increased by about 7,661 on the broad gauge, 5,296 on the metre gauge and 78 on the narrow gauge train miles per day as compared with the figures on 1 April 1949.

The percentage of passenger train mileage to the pre-war figures on the different railways varied from 94·2 to 117·6 on the broad gauge and from 89·6

to 126·1 on the metre gauge. On the broad gauge last year the highest percentage was 118·3 on the N. S. Railway, which has since cancelled one shuttle train service for lack of traffic, resulting in the recession of the percentage to 117·6.

41. Goods trains.—As compared with the previous year, the goods train miles on the broad gauge increased by 13·39 per cent, wagon miles by 14·51 per cent and net ton miles by 11·70 per cent. These figures would suggest a slight drop in the volume of the net freight carried per train on the broad gauge. On the metre gauge, there has been an increase of 5·77 per cent in train miles, 8·55 per cent in wagon miles and 9·64 per cent in net ton miles. An increase in the pay load per train over the metre gauge is indicated here. The table below gives comparative figures for the pre-war year 1938-9, and for the years 1948-9 and 1949-50.

TRAIN MILES, TON MILES AND WAGON MILES, CLASS I RAILWAYS DURING 1938-9, 1948-9 AND 1949-50*

(Figures in millions)

—	1938-9 (pre-war)	1948-9	1949-50	Increase or decrease % over 1938-9	Increase or decrease % over 1948-9
BROAD GAUGE.					
Class I Railways excluding E.P.—					
Ton miles	14,989·4	18,751·0	**20,943·0**	+39·71	+11·69
Wagon miles	1,659·2	1,746·8	**1,979·1**	+19·28	+13·29
Train miles—goods (including proportion of mixed).	37·06	39·78	**44·72**	+20·64	+12·40
All Class I Railways—					
Ton miles	..	19,428·9	**21,703·5**	..	+11·70
Wagon miles	..	1,807·6	**2,069·9**	..	+14·51
Train miles—goods (including proportion of mixed).	..	41·46	**47·01**	..	+13·39
METRE GAUGE.					
Class I Railways excluding Bikaner and Assam—					
Ton miles	2,465·6	2,478·9	**2,684·3**	+8·87	+8·29
Wagon miles	516·1	428·5	**462·1**	—10·47	+7·82
Train miles—goods (including proportion of mixed).	14·66	13·96	**14·72**	+0·41	+5·37
All Class I Railways—					
Ton miles	..	2,773·3	**3,040·7**	..	+9·64
Wagon miles	..	484·4	**525·7**	..	+8·55
Train miles—goods (including proportion of mixed).	..	15·92	**16·84**	..	+5·77

* Excludes departmental.

42. Goods train speeds.—Goods trains, during the year, were run at higher average speeds over both gauges than during the previous year. On the broad gauge the average speed was 10·74 miles per hour as against 10·27 and on the metre gauge, 9·56 as against 9·26.

43. Goods train loads.—The average net load of goods trains (steam) over the broad gauge decreased by 7 tons from 468 in 1948-9 to 461 in 1949-50, but on the metre gauge there was an increase of 7 tons from 174 in 1948-9 to 181 in 1949-50.

44. Stock usage.—The efforts to improve the power position on Class I Railways resulted during the year in an improvement, especially on the broad gauge, in the number of engines employed daily on different services, in the total engine miles run, and in the engine user. It will be seen from the figures included in the accompanying table that on the broad gauge as against

an increase of 3·94 per cent in the average number of engines in daily use, the total engine miles run increased by 7·57 per cent. The engine miles per engine day in use improved from 102 miles in 1948-9 to 106 miles in 1949-50. On the metre gauge, the increase in the number of engines in daily use was in the same proportion as the increase in the engine miles run, the figure of engine miles per engine day in use consequently remaining unchanged at 105 miles per day.

STOCK USAGE ON CLASS I RAILWAYS

Particulars	Broad gauge		Inc. or dec.%over	Metre gauge		Inc. or dec.%over
	1948-9	**1949-50**	1948-9	1948-9	**1949-50**	1948-9
Average no. of engines in use daily on different services.	3,504	**3,642**	+3·94	1,556	**1,638**	+5·27
Total engine miles (in thousands).	130,252	**140,116**	+7·57	58,417	**61,842**	+5·86
Engine miles per day per engine in use.	102	**106**	+3·92	105	**105**	*Nil*

45. **Engine usage.**—Engine miles per day per engine on line (*i.e.*, inclusive of time occupied under repairs, etc.) over both the gauges showed during the year improvement over 1948-9. From 71 miles on the broad gauge and 70 miles on the metre gauge in 1948-9, engine miles per day per engine on line improved to 75 and 74 miles respectively in 1949-50. There was a slight improvement during the year in the percentage of locomotives under or awaiting repairs in Mechanical and Transportation workshops to the total number on line, the number dropping on the broad gauge from 21 per cent to 20 per cent and on the metre gauge from 19 per cent to 17 per cent.

Substantial improvement was noticed in the figures of net ton miles per locomotive day during the year as compared with the previous year.

STATISTICS OF LOCOMOTIVE USAGE

CLASS I RAILWAYS

—	Net ton miles			
	Broad gauge		Metre gauge	
	Per goods locomotive day on line	Per goods locomotive day in use	Per goods locomotive day on line	Per goods locomotive day in use
1948-9	15,312	24,217	6,048	10,212
1949-50	**16,090**	**26,406**	**6,709**	**11,159**
Increase % over 1948-9	5·08	9·04	10·93	9·27

Details of engine usage are shown in Statement No. 22 of Volume II of this Report.

46. **Wagon usage.**—Substantial improvement was also recorded under wagon usage during the year on the broad gauge of Class I Railways. Wagons were hauled an average of 38·1 miles a day during the year as against 33·1 only in 1948-9. On the metre gauge, the figure recorded was 29·7 miles in 1949-50 as against 29·1 miles in 1948-9.

The percentage of wagons under or awaiting repairs in Mechanical and Transportation workshops and sick lines to the total goods stock on line recorded a slight improvement on the broad gauge in that it dropped from 8·18 per cent in 1948-9 to 7·59 per cent in 1949-50. But on the metre gauge it advanced from 6·89 per cent to 8·25 per cent.

The improvement in operation is also confirmed by the net ton miles moved per wagon day which increased on the broad gauge from 358 to 402 and on the metre gauge from 171 to 180.

47. **Wagons loaded with 'Smalls'.**—The decline in the percentage of smalls to total traffic over both the gauges is brought out in the table below.

NUMBER OF WAGONS LOADED WITH 'SMALLS'

CLASS I RAILWAYS

—	Number		Increase or decrease % over	Percentage of the total number of wagons loaded	
	1948-9	**1949-50**	1948-9	1948-9	**1949-50**
Broad gauge . . .	339,233	**344,672**	+1·60	9·33	**8·48**
Metre gauge . . .	263,134	**281,399**	+6·94	13·84	**13·48**

48. **Improvement in marshalling and other yards.**

Eastern Punjab Railway.—Yard remodelling of Delhi main station, designed to provide for simultaneous reception and despatch of goods trains and an increased number of goods reception lines, was started.

Oudh Tirhut Railway.—Remodelling of Badshahnagar and Burhwal station yards was nearly completed.

Assam Railway.—The work was commenced on the provision of a new marshalling and goods yard at Alipur Duar.

Bombay, Baroda and Central India Railway.—Additional sidings in the up sorting and down departure yards and extending the up departure sidings in the Baroda marshalling yard, were completed during the year.

49. **Wagon position, Broad Gauge Wagon Pool.**—The number of public service wagons, in terms of four-wheelers, in use on all Indian Railways in the Wagon Pool at the end of the year was 154,462, *i.e.*, 743 less than that at the end of the previous year. The total number of wagons loaded during the year, inclusive of wagons loaded with military traffic booked at coaching rates, was 4,066,483, which represents an increase of 430,442 or 11·8 per cent as compared with the previous year. Demands throughout the year generally exceeded the available wagon supply.

50. **Wagon position, Metre Gauge Wagon Pools.**

(a) *Northern.*—The number of public service wagons in terms of four-wheelers, in use on all Indian Railways on 31 March 1950 excluding W. D. stock was 36,836, *i.e.*, 710 more than that at the end of the year 1948-9. The wagon position continued to be difficult and 400 general service wagons were transferred from the Southern Pool to cope with traffic demands. The total number of wagons loaded during the year was 1,517,164, inclusive of wagons loaded with military traffic booked at coaching rates, *i.e.*, an increase of 145,523 or 10·6 per cent as compared with the previous year.

(b) *Southern.*—The metre gauge wagon pool of the southern railways was controlled by the Regional Controller of Railway Priorities during the year.* The number of public traffic wagons owned by the southern railways was 12,714, in terms of four-wheelers. As the wagon position of these railways was more satisfactory than that of the northern metre gauge railways, they were, as stated earlier, ordered to transfer 400 wagons to the Northern Pool. The total number of wagons loaded during the year was 813,904 as compared with 764,516 during the previous year, *i.e.*, an increase of 8·8 per cent.

51. **Interchange with Pakistan Railways.**—During the year Indian Railways made over to the Pakistan Railways 102,619 broad gauge wagons, which included 84,348 loaded. Of the 56,517 metre gauge wagons made over, 48,030 were loaded to Pakistan Railways. The total number of wagons received from them was 101,745 broad gauge wagons of which 61,709 were loaded, and 56,126 metre gauge wagons of which 46,252 loaded. On an average Pakistan Railways were creditor by 36 broad gauge wagons and debtor by 381 metre gauge wagons a day to the Indian Railways.

* On 1 April 1950, the control was taken over by the Director of Wagon Interchange.

52. Neutral examination of interchanged stock.—The staff working under the Director of Wagon Interchange continued to examine wagons interchanged between railways at the following junctions :—

Broad gauge	*Metre gauge*
Ajni (Nagpur)	Badarpur
Chheoki	Lalmanirhat
Ghaziabad	Parbatipur (from 15.1.50)
Khanalampura	
New Delhi	
East Dock Junction	
Waltair	
Bongaon	
Atari (Interchange transferred from Lahore from 1.9.50)	
Macleodganj Road	
Ranaghat	

Certain staff under the Director of Wagon Interchange, who were posted at Moghalpura, Lillooah and Jhansi Workshops, continued to examine wagons turned out of the workshops.

53. Coal supply and coal stock position.—The coal stock and supply position during the year continued to be satisfactory. The stocks of steam coal on Class I Railways, which stood at 16·8 days consumption requirements at the beginning of the year, showed a steady improvement reaching a level of 24·2 days requirements at the end of January 1950. The year closed with the coal stocks being reduced to a level of 21·5 days requirements.

The question of improving the quality of coal supplied to railways was strongly taken up with the Ministry of Industry and Supply, and as a result of the steps taken by them to tighten up the check of loading of coal for supply to railways, there was a decrease in the number of complaints from railways.

54. Reclassification of accommodation.—The experiment with the three class system and the improvized arrangements for the provision of sleeping accommodation in Class II on payment of a surcharge, as indicated in the last report, was found neither popular nor financially remunerative. A new class between Class I and Class II, designated Class II Special, providing sleeping accommodation and other amenities of a standard conforming to the former Second Class but at a fare of 14 pies per mile, was introduced on 1 December 1949 on all important trains, thus virtually restoring the old four class system. The former nomenclature, *viz.*, First Class, Second Class, Inter and Third Class has also been restored with effect from 1 July 1950.

B. COMMERCIAL

55. Alteration in rates and fares.

Goods.—The more important changes in freight rates during the year are summarized below :—

(*a*) With effect from 1 April 1949, railway materials and stores became liable to charges at public tariff rates.

(*b*) From 1 November 1949, hand-woven cloth, including *khaddar* (handspun and hand-woven), not press-packed, has been charged at the rate of 10th class (RR) and 9th class (OR), formerly applicable to press-packed cloth.

(*c*) With effect from 1 December 1949, a rebate of 12½ per cent of freight, exclusive of terminal transhipment and other charges, was introduced for coal booked to cotton textile mills, paper mills, including the straw board industry, and cement factories.

(*d*) The ghat charge of Re. 0-12-0 per ton on all consignments of coal passing over either at Thull Ghat or Bhore Ghat on the Great Indian Peninsula Railway, was withdrawn from 1 January 1950.

Coaching traffic.—The following important changes in coaching rates and fares were introduced during the year :—

A new class, *viz.*, Class II Special, was introduced with effect from 1 December 1949. The basis of fares for this additional class was fixed at 14 pies per mile. With effect from the same date, the surcharge of six pies per mile per passenger for air-conditioned class was abolished and the fare for this class was fixed at 30 pies per mile.

With effect from October 1949, the scale of deposit on season tickets of all classes was revised as follows :—

Fares of season tickets	Amount of deposit
Up to Rs. 20	Rs. 2
Exceeding Rs. 20 and up to Rs. 30	„ 3
Exceeding Rs. 30 and up to Rs. 40	„ 4
Exceeding Rs. 40 and up to Rs. 50	„ 5

and so on at the rate of Rs. 1 for every Rs. 10 of fare or part thereof.

With effect from 1 August 1949, quarter parcels rates were applied to fresh fruits at owner's risk, the freight being pre-payable.

With effect from 1 November 1949, the half parcels scale was extended to handloom cloth including *khaddar* (both handspun and woven) not press-packed at owner's risk.

The G. I. P. Railway introduced with effect from 1 June 1949, special class III monthly season tickets called "Produce Vendors' season tickets". These season tickets are available between stations on the Bombay-Karjat and the Kalyan-Kasara sections, including the Harbour and Kurla-Mankhurd branches.

The E. I. Railway cancelled with effect from 1 April 1949, the adjusted fares formerly available between Howrah and *viâ* Naini for passengers to and from Bombay V. T.

The S. I. Railway introduced with effect from 15 December 1949, monthly and quarterly season tickets for Classes I and III available between any two stations on the Nilgiri Railway, as also between any station on the Nilgiri Railway and any station on the S. I. Railway.

56. Effect of changes in rates and fares.

Goods Traffic.—The only major change in rating policy during the year was the withdrawal from 1 April 1949 of the concessional rates hitherto applied to railway stores and materials and their replacement by public tariff rates.

This was also the first year in which the revised rating structure, introduced on 1 October 1948, operated throughout. That these rates did not hamper the development of traffic is evident from an increase in net ton miles from 22,387 millions in 1948-9 to 25,119 millions in 1949-50.

Passenger Traffic.—Although passenger earnings from all classes of transportation recorded an increase as a result of the change in the bases of fares which took effect from 1 January 1948, upper class earnings were affected by the reduction in the number of upper classes, which were restored to the earlier basis only from 1 December 1949, with the introduction of Class II Special. The improvement in the number of passengers carried and in earnings may be seen from the following table.

(In thousands.)

	1948-9	1949-50
No. of passengers carried	1,152,367	**1,239,891**
Earnings	Rs. 88,80,35	**91,18,17**

57. Assam Rail Link—rating and routing of traffic.—The Assam Rail Link, providing a continuous rail route over Indian territory connecting stations in Assam and the rest of the country, was opened for goods traffic from 9 December 1949, and for coaching traffic of all description from 26 January 1950. Prior to its opening, the only rail route was *viâ* the Eastern Bengal Railway (Pakistan).

With the opening of the Assam Rail Link for through booking of traffic, standard telescopic class and wagon load scales of rates for goods traffic were adopted on a continuous mileage basis, as in the rest of the country, subject, however, to the following mileage inflations necessitated by high construction and maintenance costs :—

—	Length (miles)	Extent of mileage inflation
(*a*) Fakiragram to Alipur Duar Junction (new construction) .	45·00	Twice
(*b*) Alipur Duar to Hasimara (existing Cooch-Behar State Railway).	21·50	Twice (already in force)
(*c*) Hasimara to Madarihat (new construction) . . .	6·50	Thrice
(*d*) Madarihat to Bagrakote (existing northern section of the Bengal Dooars).	55·25	Thrice (already in force)
(*e*) Bagrakote to Siliguri North (new construction) . .	21·00	Thrice
(*f*) Siliguri North to Kishanganj (converted from narrow gauge to metre gauge).	66·27	Twice
	215·52	

The application of telescopic scales of rates on a continuous mileage basis has, in a number of cases, brought the rates by the new line approximately into parity with existing rates *viâ* the East Bengal Railway. Where necessary, however, appropriate station-to-station rates have been quoted.

Rates for tea and jute—the main traffics of Assam—have been adjusted for economic considerations on a basis equated to the charges formerly paid by the route, *e.g.*, all-rail, all-river, rail-cum-river, by which the traffic normally moved in the past. Special rates on this basis have been notified for the bulk of the traffic in these commodities with effect from 24 February 1950. Special rates for kerosene oil and paraffin have also been quoted on a similar basis. As a result of the construction of the Link, traffic from many of the important jute and tea booking-stations in the Dooars area has now a shorter distance to cover to reach Calcutta, the port of export. Even at tariff rates, such traffic pays less freight than formerly.

Owing to the strain on ferry capacity at Manihari Ghat, Bhagalpur and Mokameh, it is sometimes necessary to divert traffic by a longer route. When this is done at railway convenience, charges are levied at the cheapest route.

As the new line will take sometime to consolidate and as, until this is done, movement capacity will remain limited, steps have been taken to coordinate movements of goods traffic by the rail-cum-river route.

Standard fares and charges for parcels and luggage were also adopted and the inflated mileages applied. But these are levied in full only on the local traffic of the Assam Railway, the object being to keep fares and charges for long distance through traffic at a reasonable level. This has necessitated the quotation of adjusted distances in charging fares to passengers, or rates on luggage and parcels booked to or from stations situated within 134 miles of Katihar and Manihari Ghat on the O. T. and E. I. Railways, respectively.

On the small section between Siliguri North and Sevoke, local coaching traffic on the metre gauge is subject to the same fares and charges as those applying on the Darjeeling Himalayan Railway.

58. Efforts to secure better wagon usage and wagon loads.—Measures adopted by railways during previous years in order to secure better usage of wagons and improved wagon loads continued in force and, in some respects, were intensified. The minimum load condition of 250 maunds per through broad gauge road vans, which had previously applied only on the B. N., and G. I. P. Railways, was extended to all Indian broad gauge railways. The minimum load for through road vans on the O. T. Railway was raised from 130 to 160 maunds. On the S. I. Railway, a minimum of 160 maunds per metre gauge and 240 maunds per broad gauge four-wheeler was fixed for the supply of wagons generally. On the E. P. Railway, weight conditions of

W/81 B. G., W/54 N. G., for cotton (raw), loose, and wool, loose, and of W/81 B. G. for silk, raw in cocoons, applicable in local booking were cancelled, and these commodities were made subject to the weight conditions of W/120 B.G., W/80 N.G., applicable in the case of bulky goods generally.

Among other steps taken by railways to improve wagon usage during the year was the further extension of the system of nominated loading.

59. Co-ordination of rail, road and water transport.—An outstanding development during the year was the establishment of the Bombay State Road Transport Corporation by the Government of Bombay. The Corporation is now operating the nationalized road services in the Bombay State. The Railways are represented on the Executive Committee of the Board of the Corporation. During 1949-50, the Railways made a further investment of Rs. 35 lakhs representing 25 per cent of the additional capital for the Bombay Government's Road Transport Service.

In Madhya Pradesh State, the financial results of the working of the Central Provinces Transport Services, Limited, a rail-associated company, were encouraging. The other company in the State, known as the Provincial Transport Company, Limited, in which railway investment amounts to Rs. 3·47 lakhs, gave some cause for anxiety. To correct the position, the State Government appointed their Director of Transport Services as Managing Director of the Company, the object being to improve administrative efficiency and finances. There were no special developments in other States.

Temporary suspension of through booking arrangements with the Eastern Bengal Railway and *viâ,* placed an unduly heavy load on the Assam Rail Link. Steps were, therefore, taken to coordinate movements of traffic by the rail-cum-river routes to the maximum extent.

Through booking arrangements for goods traffic by the sea-cum-rail route from stations on the South Indian Railway to Bombay *viâ* Cochin Harbour and *vice versâ* continued during the year. Through booking arrangements with the Bombay Steam Navigation Company for carriage of goods traffic from Bombay Harbour to stations on the Saurashtra Railway and *viâ* also continued.

60. Closer contact with business interests.—General Managers and Chief Commercial Managers of Railways continued to be members of the more important chambers of commerce and, not infrequently, served on their sub-committees concerned with railway matters. Railways, however, dissociated themselves from chambers of commerce which have communal denominations or whose membership is restricted to members of a particular community or communities.

Close contact with the business community was also maintained by the usual means, *viz.,* informal meetings with chambers of commerce and trade associations and with merchants at important centres. Discussions at these meetings ranged over a variety of subjects, such as delays to goods in transit ; settlement of claims ; lifting of booking restrictions etc., and afforded a useful means of fostering better relations and understanding between the railways and commercial interests.

61. Claims for compensation and refund.—The number of claims which remained unsettled on Class I Railways at the end of the year 1949-50 was 72,018 as against 155,338 at the end of 1948-9. The improvement resulted from the vigorous drive launched for the liquidation of arrear claims, summary settlement of petty claims, and the reduction in the number of new claims brought about by the claims prevention campaign.

The following statements for Class I Railways show for 1949-50 :—

(*a*) the number of claims received in respect of goods or parcels damaged or lost, and of goods and parcels overcharged, and the average time taken in their settlement ;

(*b*) the number and value of claims in respect of goods or parcels lost or damaged under the main causes ;

(*c*) the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.

STATEMENT A.

Claims received for goods or parcels damaged, lost or overcharged, and the average time for settlement

Item No.	Particulars	Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I.	Total all railways
1	Number of claims involving compensation for goods or parcels lost, damaged, or delayed, carried over as unsettled at the close of the preceding year.	3,844	28,524	7,587	11,728	30,901	8,022	27,012	6,698	5,412	2,828	6,019	15,201	1,562	155,338
2	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year.	15,598	60,275	5,149	50,825	101,622	29,540	49,242	4,985	23,780	6,565	7,117	44,233	10,111	409,042
3	Number of claims referred to against items 1 & 2 settled during the year.	16,635	*73,106	8,903	55,493	117,624	34,988	67,232	7,166	25,357	7,632	11,349	54,939	10,249	490,673
4	Balance outstanding as unsettled at the close of the year.	2,807	†14,004	3,833	7,060	14,899	2,574	9,022	4,517	3,835	1,761	1,787	4,495	1,424	72,018
5	Net amount paid in compensation. Rs.	16,92,467	63,57,972	1,33,417	34,95,940	87,00,166	18,08,101	59,74,325	94,305	15,42,391	32,837	6,95,866	51,92,771	10,01,234	3,67,21,792
6	Percentage of sum paid in compensation (item 5) to gross earnings.	6·92	3·07	1·9	1·77	2·20	1·24	2·08	0·95	0·70	1·32	1·07	9·52	1·17	2·16
7	Average time taken in settlement of claims shown against items 1 & 2 (days).	46	116	87	147	70	65	102	83	74	98	204	85	50	94
8	Number of applications received for refunds on goods & parcels overcharged.	7,202	5,089	1,405	11,904	34,468	13,061	13,296	3,708	21,703	3,902	3,517	9,175	33,256	161,686
9	Average time taken in settlement of claims shown against item 8 (days).	67	174	60	85	90	36	69	149	48	97	238	78	44	74

* Includes pre-partition cases.
† Exclusive of 1,689 court cases which were conducted by foreign railways in courts within their sphere.

STATEMENT B.

Number and value of claims paid

Item No.	Particulars		Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I.	†Total all railways
1	Claims paid on account of goods lost.	No.	1,196	17,464	831	8,652	27,476	Not separately available.	19,334	990	3,159	*Nil*	300	3,692	2,417	85,511
		Value (Rs.)	5,30,315	31,52,917	73,073	10,62,494	1,02,67,731		22,07,311	1,43,875	8,28,364	*Nil*	75,214	15,38,221	1,12,446	1,99,91,961
2	Claims paid on account of goods stolen.	No.	24	6,659	22	17	2,337		*	103	71	*Nil*	210	5,250	27	14,720
		Value (Rs.)	15,556	15,42,397	703	4,990	4,53,090		*	7,795	53,708	*Nil*	37,870	21,58,671	6,954	42,81,734
3	Claims paid on account of goods damaged by wet.	No.	66	453	211	750	2,796		1,022	13	359	*Nil*	21	22	164	5,877
		Value (Rs.)	29,031	2,07,208	13,990	1,53,081	7,33,029		90,572	1,514	92,333	*Nil*	3,963	12,369	24,394	13,61,484
4	Claims paid on account of goods damaged by fire.	No.	*Nil*	5	*Nil*	9	2		*Nil*	1	3	*Nil*	7	3	9	39
		Value (Rs.)	*Nil*	1,501	*Nil*	3,846	275		*Nil*	105	148	*Nil*	1,733	2,285	3,126	13,019
5	Claims paid on account of goods damaged by breakage.	No.	11	67	845	5	133		512	*Nil*	71	*Nil*	343	91	63	2,141
		Value (Rs.)	1,207	15,726	53,093	190	8,606		60,101	*Nil*	5,998	*Nil*	26,587	6,655	2,716	1,80,879
6	Claims paid on account of parcels and luggage lost and stolen.	No.	879	9,128	181	6,864	9,219		2,807	920	2,088	*Nil*	503	6,515	685	39,789
		Value (Rs.)	1,63,546	17,35,931	25,050	8,07,114	15,04,043		1,82,689	63,630	4,45,921	*Nil*	94,080	12,59,294	36,630	63,17,928
7	Claims paid on account of other causes.	No.	1,898	1,198	119	12,102	1,054		5,516	583	6,739	2,429	2,244	2,365	2,130	38,377
		Value (Rs.)	9,52,812	9,31,671	2,279	26,16,332	1,75,459		17,80,327	10,835	7,65,943	32,837	2,32,776	10,35,925	1,26,297	86,63,493

* Included in item 1.

† Exclusive of E. P. Railway since particulars of claims by different causes are not available.

STATEMENT C.

Number of court cases in respect of claims and their disposal

Item No.	Particulars	Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I.	Total all railways
1	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect of goods or parcels lost, damaged or delayed.	1,963	11,089	223	7,184	20,405	1,929	10,505	384	2,555	251	99	12,939	225	69,751
2	Number of such suits settled out of court.	525	6,775	2	2,972	5,738	305	2,939	43	449	131	59	5,920	39	25,897
3	Number of suits dismissed . .	246	622	2	658	3,456	820	1,282	*Nil*	177	163	3	410	38	7,877
4	Number of suits decreed . .	171	494	1	301	2,319	272	2,189	3	161	118	8	3,565	16	9,618
5	Number of suits pending . .	1,021	1,509	218	3,253	8,892	532	4,095	338	1,768	322	29	3,044	132	25,153

62. Disposal of arrear compensation claims, prevention of claims and problems created by the partition.—The all-out drive launched on 1 January 1949 for the disposal of arrear compensation claims was intensified during the year. The majority of pre-1949 claims, excluding only pre-partition claims for which relevant files were not available and cases *sub judice,* were finalized. By the end of the year the number of unsettled claims on major railways represented no more, and on several railways considerably less, than the equivalent of the intake of new claims for three months. With the position in railway claims offices restored to normal, it was found possible to dispense with the summary procedure for disposal of arrear claims cases. The inter-railway " Claims Convention " introduced in 1943 to reduce correspondence involved in fixation of inter-railway liability, was finally discontinued from 1 January 1950. It was considered desirable to revert to the normal procedure so that responsibility for irregularities can be brought home to individuals concerned—an important aspect of claims work which had unfortunately received less than due attention during the pendency of the Convention. To enable Claims Offices to concentrate on more important cases, the decision was taken that the paying railway should bear claims for amounts less than Rs. 50 without fixing inter-railway responsibility. Station masters of larger stations and claims inspectors continue to exercise powers for settling under certain conditions, claims up to Rs. 50.

The claims prevention drive was maintained during the year. The P.L.M. publicity campaign for better packing, labelling and marking of consignments helped to draw public attention to this important aspect of claims prevention. New packing conditions designed to ensure that consignments stand up to the normal strain of transit and which also take into account the availability of packing materials, were under consideration during the year.

Substantial progress was made in the disposal of pre-partition claims for which files were available or adequate information could be obtained. Of 16,295 claims outstanding at the beginning of the year 1949, 11,790 had been disposed of by 31 March 1950. Disposal of the remaining claims had been hampered by the absence of files or essential information awaited from Pakistan Railways.

63. Prevention of ticketless travel.—The measures for the prevention of ticketless travel, outlined in the reports for 1947-8 and 1948-9, were continued during the year. The special arrangements made in conjunction with State Governments for controlling ticketless travel in Uttar Pradesh were maintained ; so were also the arrangements made by the Government of Bombay for the provision of additional Police in furtherance of the special measures for prevention of ticketless travel adopted by the G. I. P. Railway.

Measures generally adopted included the following :—

(*a*) opening of additional booking offices, regulation of hours of opening according to the demand for tickets and training booking clerks to issue tickets expeditiously in order that passengers experience no difficulty in obtaining tickets ;

(*b*) enforcement of maximum control at station entrances and exits;

(*c*) reduction, where necessary, in the number of ticket checking stations to ensure intensive checking at those retained ;

(*d*) posting of travelling checking staff for duty at stations ; their attainments serving as targets for the station staff ;

(*e*) officers of all departments asked to observe conditions at stations and make suggestions and bring to notice irregularities.

Special measures adopted by individual railways are summarized below:—

Assam . .	Surprise and special checks were arranged, in addition to programmed checks. The assistance of armed police was obtained in the seriously affected areas. The special railway magistrate appointed by the Assam Government held mobile and stationary courts for purposes of trying offenders on the spot.
B. B. & C. I. .	As an additional measure for checking ticketless travel, an officer was placed in charge of the various squads of Travelling Ticket Examiners who were under his direct control. Surprise raids and sustained checks were made at selected stations and, where necessary, the aid of Government Railway Police was sought for making such checks effective. Increasing emphasis was placed on the staff doing their duty properly.
B. N. . . .	Overcrowding was reduced by restoring train services almost to pre-war level; and trains were strengthened in some cases by providing additional coaches. Special care was taken in the selection of checking staff and only men suitable in all respects were appointed. The services of magistrates were utilized on Camp Court days.
E. I. . . .	All ticket checking staff were required to appear for a periodical test and attend a refresher course at the Railway School of Transportation, Chandausi.
G. I. P. . . .	Arrangements for ensuring that gates were manned continuously, were improved on the Bombay suburban section.
M. & S. M. . .	A check up on staff requirements at selected stations was carried out to ascertain whether any increase was necessary for the efficient conduct of checks.
S. I. . . .	Plans for remodelling stations provided for island platforms thus segregating passengers from other persons. Special lady booking clerks were appointed to cater to the needs of women passengers.

64. *Mela* traffic.—Hardwar, the holy city situated at the foot of the Himalayas, where the Ganges enters the plains, celebrated during the year the Kumbh Mela. The last *mela* of the kind in the place occurred in 1938.

To cope with the anticipated influx of pilgrims to the *mela*, rolling-stock was obtained from railways throughout India, and no less than 651 special trains were run. The total number of passengers who arrived by rail for the Kumbh Mela exceeded 600,000. Pre-planning was on a large scale and additional catering, booking and waiting hall facilities were provided, special attention being paid to sanitation.

Although arrangements on this scale were not required elsewhere, railways did everything within their power to meet the requirements of visitors to other *melas* and fairs.

65. Measures to ensure civility and assistance on the part of railway staff in their dealings with the public.—Railway Administrations continued to give this important matter due attention. Prompt investigations were made into all complaints received from the public and appropriate action taken in proved cases of incivility, discourtesy, or indifference. Instances of exceptional services or assistance were also appreciated and encouraged.

66. Measures taken to prevent blackmarketing of tickets.—Although there was no longer any evidence of railway tickets being sold in the black market, administrations took precautions to obviate any possibility of a revival of the practice.

Adequate supplies of tickets were generally maintained; booking office hours were extended and more booking office windows opened as required; separate booking counters were provided for ladies at certain busy stations; and other measures adopted, including the sale of return tickets to pilgrims, to facilitate the speedy and regular supply of tickets to passengers.

67. Measures taken to foster tourist traffic.—The Ministry of Transport, in order to develop tourist traffic, constituted an *ad hoc* Tourist Traffic Committee, representative of the Ministries concerned and of tourist, transport and hotel industries. The functions of the Committee were to work out practical schemes for immediate development, particularly of foreign tourist traffic. With the assistance and advice of a Sub-Committee of the Tourist Traffic Committee, the Government examined the question of relaxing various controls and removing unnecessary and at times annoying restrictions relating to passports, visas, registration, currency, customs formalities on departure, etc. An informal American Tourist Promotion Group was also constituted to consider points of special importance pertaining to tourist traffic which might be attracted from the continent of America.

The grant of recognition to tourist agents hitherto accorded by the railways through the General Secretary, Indian Railway Conference Association, was taken under the control of the Ministry of Transport. Formerly, each recognized agency had to enter into separate agreements with individual railways. This is now no longer necessary, and a recognized tourist agency may conclude with any railway, a general agreement in respect of all Indian Railways.

In order to relieve foreign tourists from the trouble of purchasing tickets from one place to another during their visit to India, tourist agents have been given permission to issue to genuine overseas tourists, at the port of arrival, sea or air, railway tickets for their entire journey in conjunction with tickets for road or air travel. Railways also undertake to provide special travelling facilities and to run special trains, where required, for the convenience of tourist parties from overseas.

Efforts were made during the year to encourage and develop tourist traffic to recognized tourist centres. In the case of Kashmir, arrangements were made to run air-conditioned coaches attached to the Frontier Mail through to the rail terminus at Pathankot. The timings of this train were also adjusted to ensure earlier arrival at Panthankot. Special attention was given to the provision of waiting facilities at this station.

CHAPTER IV

NEW CONSTRUCTIONS AND ENGINEERING WORKS

68. Capital expenditure.—At the end of March 1950, the total capital at charge of all railways, including lines under construction, amounted to Rs. 812·99 crores, of which Rs. 736·14 crores, represented the capital-at-charge of Indian Government Railways, inclusive of the premia paid on the purchase of certain companies' lines. The balance of Rs. 76·85 crores was the capital raised by Indian States, Companies and District Boards.

The figure of capital-at-charge of Indian Government Railways is provisional, pending closing of the pre-partition accounts, and comprises the following items:—

	£
Liability and debt incurred in the purchase of railways .	131,164,798
Less Liability and debt cancelled by the operation of annuities and sinking funds	23,756,284
Net amount outstanding	107,408,514
	Rs.
Direct expenditure by Government (in thousands) . . .	5,92,92,61
Amount in sterling converted into rupees (in thousands) . .	1,43,21,58*
GRAND TOTAL .	7,36,14,19

By far the greater portion of this amount, namely, Rs. 7,34,02,75,000 is Government Capital and only Rs. 2,11,44,000 is owned by Indian States, etc.

The total capital outlay on all railways during 1949-50 was Rs. 37·39 crores of which Rs. 34·25 crores related to Indian Government Railways.

The distribution of the capital outlay in 1949-50 over the different Indian Government Railways is shown in the summary below:—

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1949-50.

(Figures in lakhs of rupees.)

Railways	Open Lines			New Lines			Grand Total
	Works etc.	Rolling stock	Total	Works etc.	Rolling stock	Total	
Assam Rail Link Project .	..	..	..	2,70	..	2,70	2,70
Assam	1,15	4	1,19	..	..	..	1,19
Bengal Nagpur . . .	1,44	26	1,70	5	..	5	1,75
Bombay, Baroda and Central India.	1,45	7	1,52	..	..	..	1,52
East Indian . . .	4,03	93	4,96	89	..	89	5,85
Eastern Punjab . .	2,47	6	2,53	19	..	19	2,72
Great Indian Peninsula .	5,64	1,46	7,10	—1	..	—1	7,09
Madras and Southern Mahratta.	2,10	17	2,27	..	..	..	2,27
South Indian . . .	83	39	1,22	..	..	..	1,22
Oudh Tirhut . . .	2,14	34	2,48	..	..	..	2,48
Darjeeling Himalayan .	—20	21	1	..	..	..	1
Other Indian Railways .	28	..	28	..	..	..	28
Chittaranjan Locomotive Works.	5,17	..	5,17	..	..	..	5,17
TOTAL .	26,50	3,93	30,43	3,82	..	3,82	34,25

*The amounts, £2,575,000, £2,000,000, £1,500,000 and £1,000,000, representing the share capital respectively of the Great Indian Peninsula, the Bombay, Baroda and Central India, the Madras and Southern Mahratta and the South Indian Railways (the first two amounts being paid off during 1925-6 and 1941-2 respectively, and the last two during 1944-5) have been converted at appropriate average rate of exchange for those years and the balance of £100,333,514 at the rate of 1*s*. 6*d*. to the rupee.

69. Mileage of lines opened or sanctioned in 1949-50.—The following new lines were sanctioned for construction during the year:—

NEW LINES SANCTIONED

Railway	Name of line	Mileage	Date of sanction
Bombay, Baroda and Central India . .	Kandla-Deesa	170·04	1-11-49
Eastern Punjab	Mukerian-Pathankot . . .	26·61	15-3-50
	TOTAL .	196·65	

The following new lines, representing an addition of 233·14 miles, were opened to public traffic during the year:—

MILEAGE OF LINES OPENED DURING 1949-50.

Railway	Name of line	Mileage	Date of opening
Jaipur State	Sanganer-Malpura-Sawai Mangarh Sanganer Town-Phagi section.	21·50	31-1-50
Nizam's State	Mudkhed-Adilabad Branch*—		
	(1) Himayatnagar Dhanora Section	18·86	22-7-49
	(2) Dhanora-Kinwat Section . .	17·90	10-1-50
Saurashtra	Dahinsara-Malia	14·66	10-7-49
Rajasthan	Mavli Jn.-Bada Sadri† Kanor-Bada Sadri Section.	17·71	20-11-49
Assam	Assam Rail Link‡	142·51	26-1-50
	TOTAL .	233·14	

* A length of 35·68 miles between Mudkhed and Himayatnagar had been opened to passenger traffic prior to 1949-50.

† A length of 33·49 miles between Mavli Junction and Kanor had been opened to passenger traffic prior to 1949-50.

‡ Out of this 52·14 miles between Kishanganj and Naksalbari were opened in 1948-9 after conversion from narrow gauge to metre gauge. During 1949-50, a length of 14·13 miles between Naksalbari and Siliguri was converted from narrow gauge to metre gauge, and a length of 76·24 miles of new metre gauge line was constructed and opened to goods traffic on 9 December 1949 and to passenger traffic on 26 January 1950.

70. Lines under construction during 1949-50.—Five new lines, adding up to a total mileage of 299·99 were under construction during the year. The details of the lines are shown below:—

Railway	Name of Section	Mileage under construction
Jaipur State	*Sanganer-Malpura-Sawai Mangarh.*—Phagi-Sawai Mangarh Section.	54·16
Saurashtra	Kanalus-Gop	20·93
Nizam's State	*Mudkhed-Adilabad Branch.*—Kinwat—Adilabad Section.	28·25
Bombay, Baroda and Central India . .	Kandla-Deesa	170·04
Eastern Punjab	Mukerian-Pathankot	26·61
	TOTAL .	299·99

71. New surveys.—Eight surveys, aggregating about 310 miles, were sanctioned during the year, as per details given below:—

Railway	Gauge	Mileage
ASSAM		
(1) Dudhnai-Darangiri	3′-3⅜″	42
(2) Kalkalighat-Dharamnagar	3′-3⅜″	16
EASTERN PUNJAB		
(3) Mukerian-Pathankot	5′-6″	27
(4) Rail facilities for the proposed capital of the Punjab	5′-6″	45
EAST INDIAN		
(5) Chunar-Robertganj	5′-6″	44
JODHPUR		
(6) Jaisalmer-Pokran	3′-3⅜″	64
(7) Phalodi-Srikolayatji	3′-3⅜″	61
MADRAS AND SOUTHERN MAHRATTA		
(8) Cocanada-Pithapuram Diversion of the Main Northeast line *via* Cocanada	5′-6″	11
TOTAL	..	310

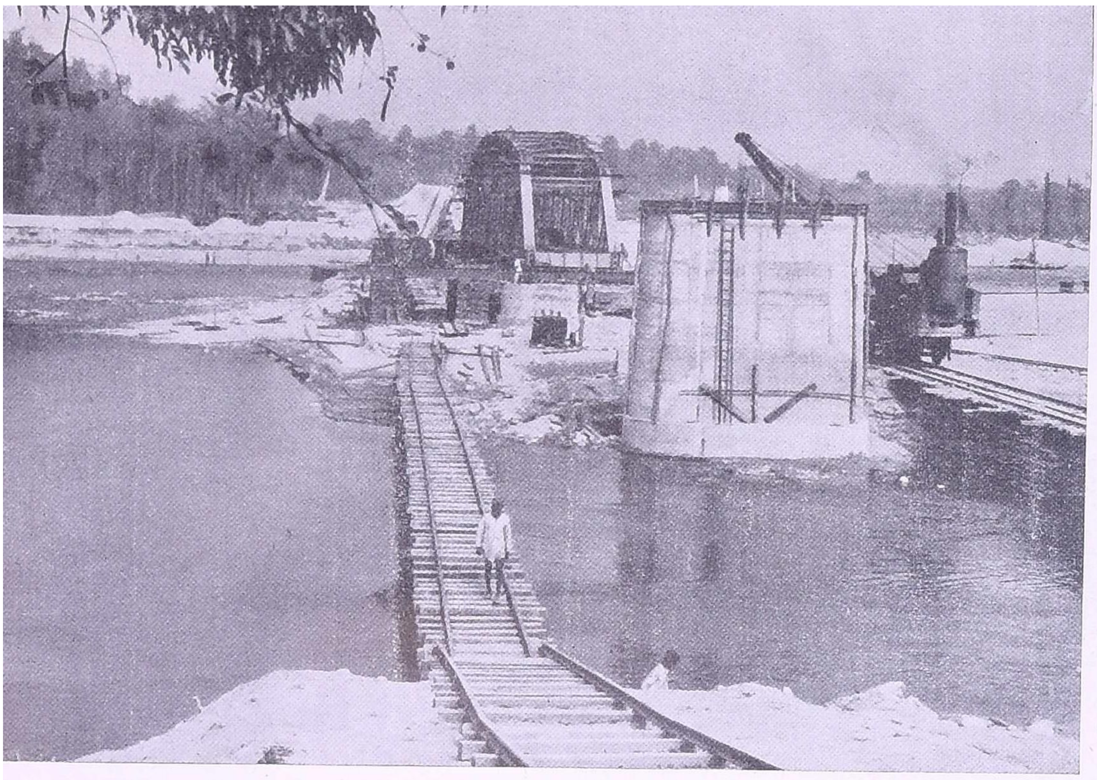
72. Lines closed during 1949-50.—No lines were closed during the year.

73. Damage caused to railways by floods and cyclones.—The following table gives the extent and character of the more important damages caused. While doubtless the figures of damages are only fair estimates, it would be seen that the figures of damages are particularly heavy on certain railways and light on others, it being so negligible as not to need any mention on the South Indian Railway. The M. & S. M. Railway, it will be seen, has recorded the highest figure of Rs. 3,80,000 as the damage consequent on cyclonic wind and rain and floods. The north east line of this railway is particularly susceptible to cyclonic influences developing from the Bay. The heavy figure of Rs. 2,58,000 on the O. T. Railway is due to the circumstance of two piers of a bridge being dangerously scoured owing to floods. The only other railway to record damages in excess of a lakh of rupees is the Eastern Punjab Railway which has recorded a damage estimated at Rs. 1,68,700 on account of the damages to track, etc., with heavy and incessant rains:—

Railways	Sections affected	Character and extent of damage	Date of damage	Duration of interruption to through communications	Total approximate cost of repairing damages, etc.
				Days	Rs.
Assam	Rangiya-Rangapara North Branch.	Rangapara North approach of Bridge No. 139 was damaged due to floods.	25-6-49	Negligible	18,000
		The abutment of the 20′ approach spans of bridge No. 81 was washed away due to floods.	23-8-49	2	
B. B. & C. I. (B. G.)	Sevalia -Timba Road.	Bridge No. 65 was damaged twice due to heavy floods in Mahi River.	10-9-49	2	30,550
			16-9-49	2	
	Churchgate-Andheri.	Owing to heavy rains station yards at several stations were submerged under 18″ of water.	21/22-9-49	2	

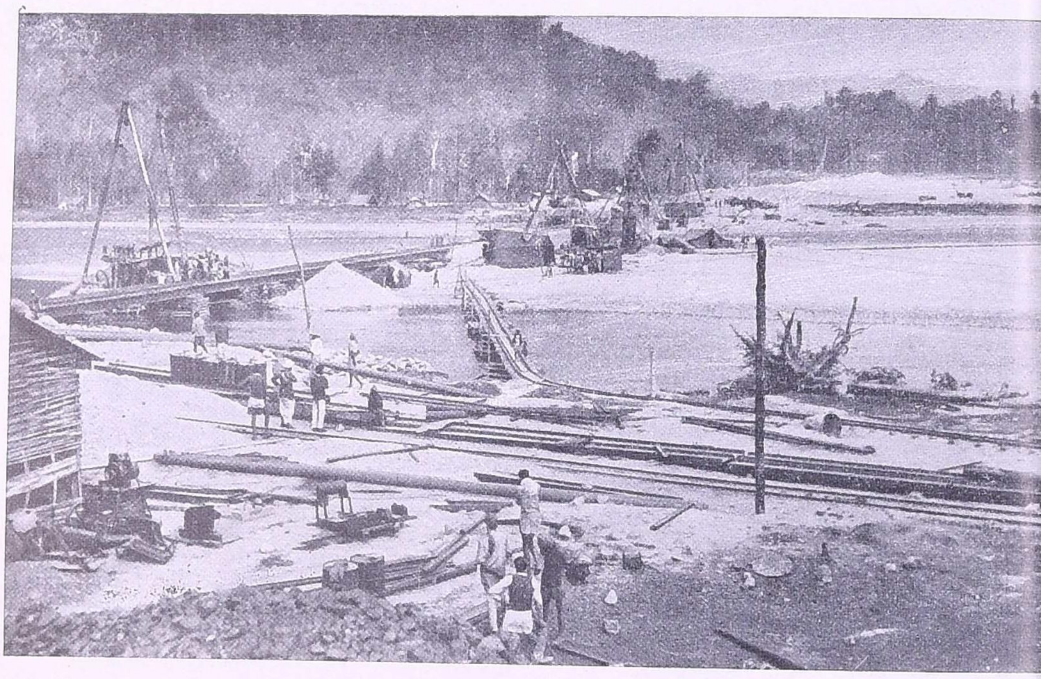
Railways	Sections affected	Character and extent of damage	Date of damage	Duration of interruption to through communications	Total approximate cost of repairing damages, etc.
				Days	Rs.
B. B. & C. I. (M. G.)	Rowari-Phulera-Chord Line.	Due to heavy rains breaches occurred between Khori and Kund and Kund and Ateli stations.	31-7-49	3	28,000
	Main Line .	Railway track between Harsauli and Ajerka was breached due to heavy rains.	31-7-49	2	
B. N. . .	Gondia-Chanda-Fort.	Due to continuous and heavy rains for 3 days, the railway track and bridges suffered damages.	13-8-49	Negligible .	53,000
	Chatrapur & Ganjam and Naupada & Waltair (including Parlakimedi Branch).	Cyclonic weather accompanied by heavy showers prevailed over the East Coast Section. Consequently railway track and bridges were damaged.	26 to 30-10-49	No interruption to communications. Trains passed with cautious driving.	
E. I. . . .	Madhupur-Giridih Branch.	On account of sudden rise in the Ushri river, the Giridih approach of bridge No. 37 between Maheshmunda and Giridih was washed away for a length of about 40′.	12-6-49	4	81,400 (Includes Rs. 16,400 regarding damages due to minor items not shown in col. 3).
	South Bihar Branch.	Bridge No. 6 between Sirari and Luckeesarai was seriously damaged by heavy floods in Kiul river.	13-6-49	1	
	Lhaksar-Dehra Dun and Raiwala-Rishikesh.	Incessant rains caused damages to railway track.	15-8-49	1	
E. P. . . .	Rupar-Kurali Patiala-Kauli and Anandpur Sahib Nangal & Main Line (New Delhi & Hazrat Nizamuddin).	Heavy and incessant rains resulted in damages to track, etc.	14 to 31-10-49	From 1 to 3 days.	1,68,700
G. I. P. . .	Bombay Area (including Main and Suburban).	Consequent upon phenomenal rains of 20 inches within 24 hours, civic life of Bombay was thoroughly paralysed. Train services were completely dislocated.	21 —-9-49 22	1	48,700
M. & S. M. . .	Tenali-Nidadavolu (B. G.) Guntur & Masulipatam and near Gudivada on M. G.	A cyclonic storm of severe intensity which originated in the Bay of Bengal crossed East Coast near Masulipatam. As a consequence, the railway area round about Masulipatam, etc., was seriously affected. Signal and telegraph posts were uprooted, trees and fencings were blown away, many buildings were stripped of their roofs and wagons capsized.	27-10-49	Ranged from 4 to 10 days	

ASSAM RAIL LINK CONSTRUCTION



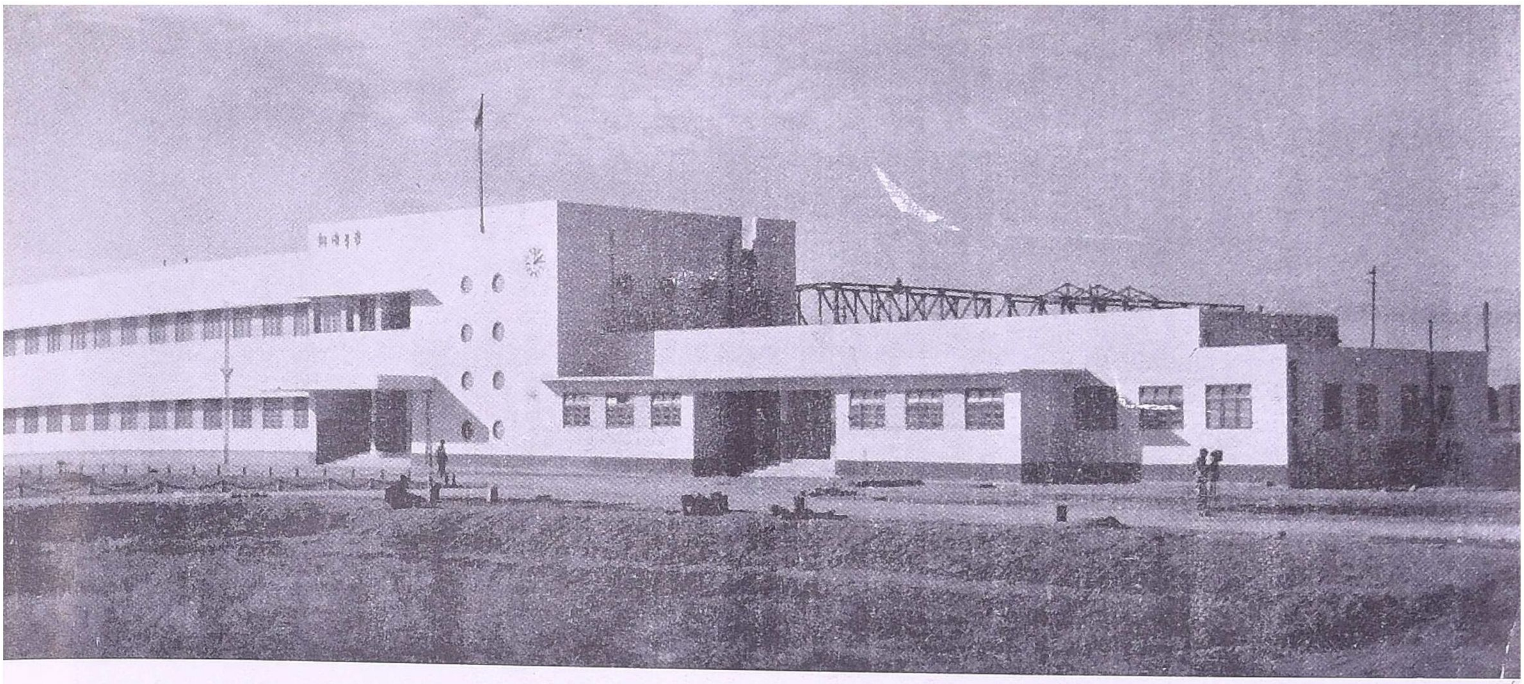
TISTA BRIDGE UNDER CONSTRUCTION, 250 FT. SPAN BEING SLEWED

THE TISTA BRIDGE UNDER CONSTRUCTION



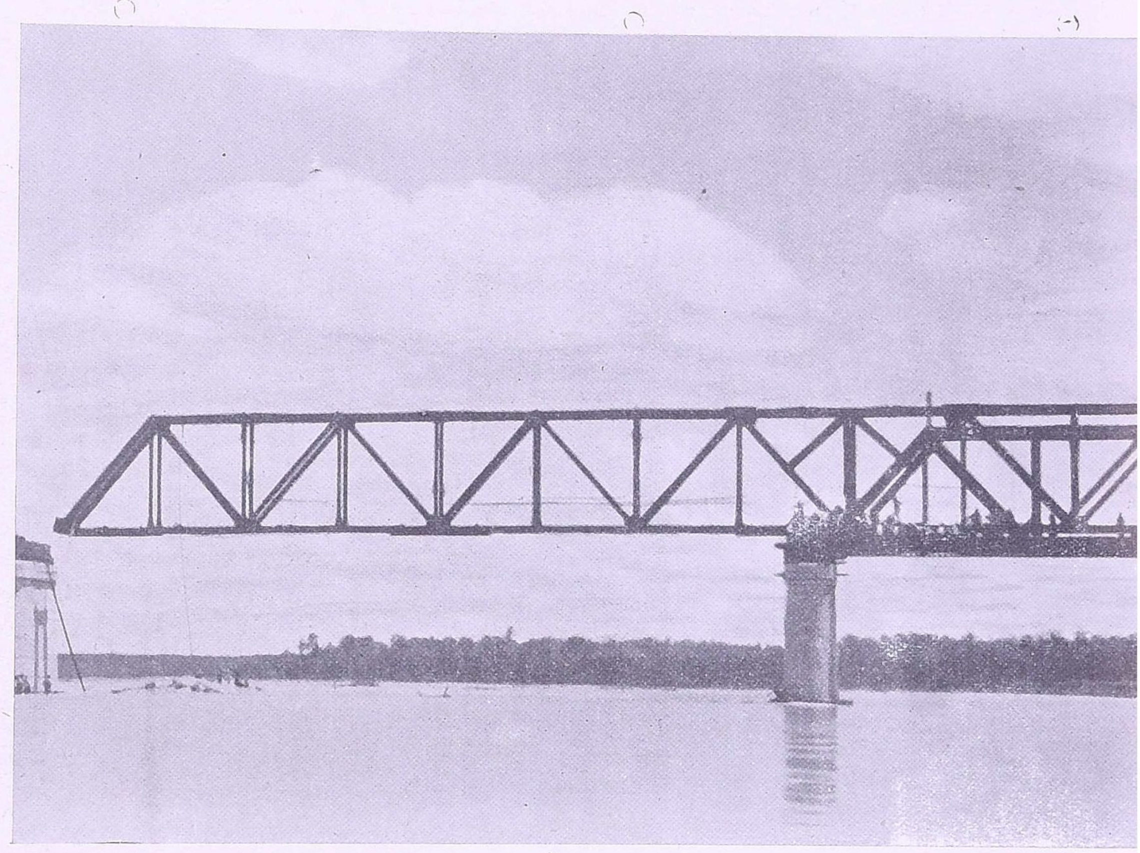
TRACTORS DOING EARTH WORK

10′ DIA. ARMCO PIPES AT RONG DONG



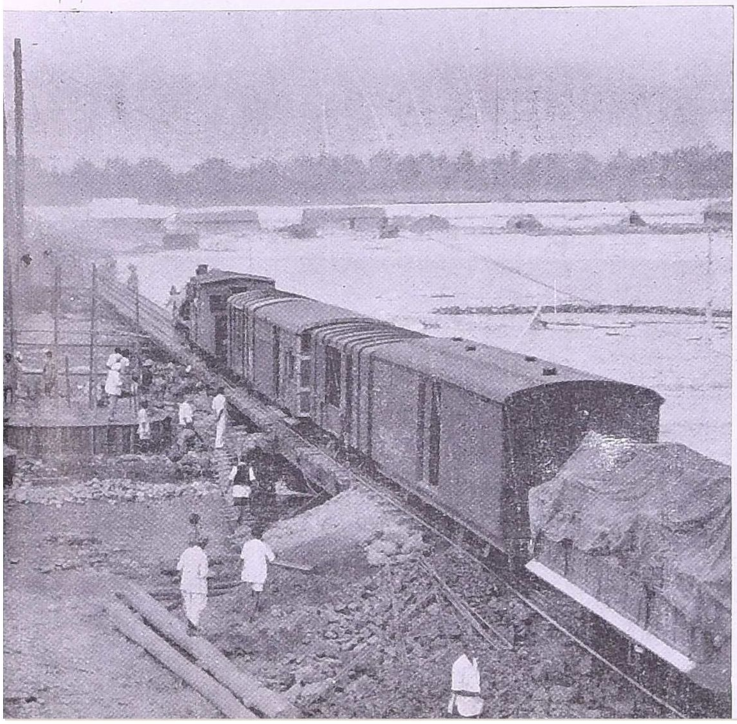
SILIGURI JN. STATION BUILDING

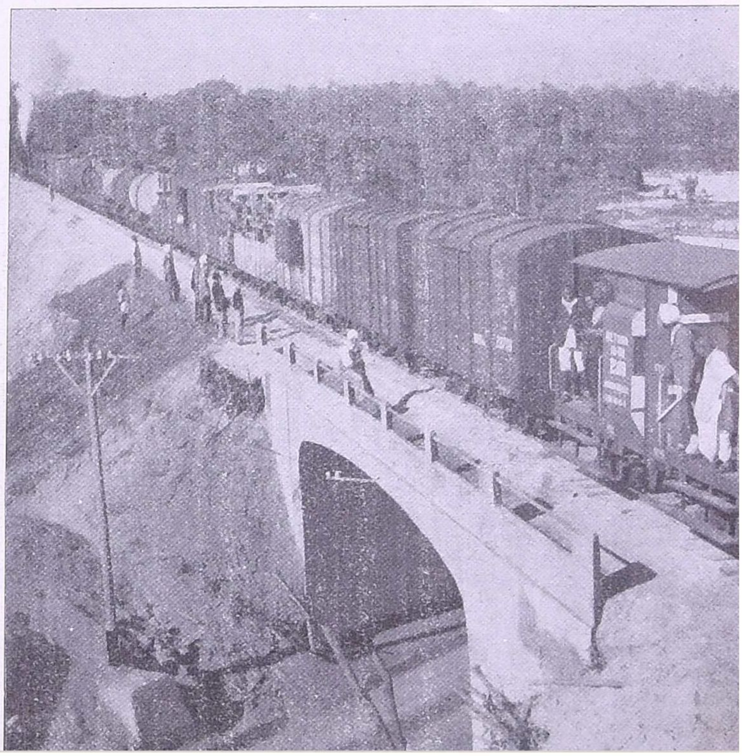
NCHING OF 150 FT. SPAN



TWO HINGED RIGID FRAME SKEW BRIDGE

TEMPORARY CRIB BRIDGE AT TORSA





Railways	Sections affected	Character and extent of damage	Date of damage	Duration of interruption to through communications	Total approximate cost of repairing damages etc.
				Days	Rs.
	Waltair-Bezwada (Main Line) Guntur & Macherla, Bezwada & Masulipatam and Gudivada Bhimavaram Branch Lines.	Heavy rains which followed the cyclone, breached tanks and rivers and seriously affected a considerable portion of the track on the North East Main Line and some Branch Line sections of the Railway, resulting in failure of embankment, ballast, training bunds etc. Two or three bridges were also affected. Length of track rendered unsafe was about 15 miles on an aggregate spread over a track mileage of about 300.	28-10-49	Ranged from 4 to 10 days	3,80,000
	(*i*) North East Main Line. (*ii*) Guntakal-Bezwada.	Heavy rains caused damages to track by slips and scours between Thadi and Duvvada and Bugganapalli and Cumbum.	(*i*)22-9-49 (*ii*) 26-9-49	3 7	
O. T. . . .	Mani-Saharsa-Dauram Madhepura Branch Line.	Two piers of a bridge between Dhamaraghat and Koparia were dangerously scoured and the right up stream guide bank was seriously cut by floods in river, necessitating heavy pitching repairs for the protection of the bridge.	7-1-50	6	2,58,000

74. Engineering works.

(1) *Assam Rail Link.*—The outstanding event of the year was the opening of the Assam Rail Link to traffic. On 9 December 1949, it was opened to through goods traffic, and to passenger traffic, on 26 January 1950, the day on which India was proclaimed a Republic. The construction of this railway link, 142 miles in length, within the short space of less than two years in spite of adverse weather and health conditions, innumerable difficulties of transport and traversing across the natural drainage channels of the fast flowing rivers, is a great engineering achievement. The completion of this work in time enabled transport of goods and passengers to Assam to be made on an all-India route, just when rail traffic across Pakistan was stopped.

The link contains four different sections as under:—

(1) *Kishanganj-Siliguri.*—Conversion of 66 miles of existing 2′–0″ gauge railway to metre gauge.

(2) *Siliguri-Bagrakote.*—Provision of a new metre gauge connection about 22 miles long including a major bridge over the Tista river.

(3) *Madarihat-Hasimara.*—Provision of a new metre gauge connection about 8½ miles long including a major bridge over the Torsa river.

(4) *Alipur Duar-Fakiragram*—Provision of a new metre gauge connection 45 miles long including two major bridges over the rivers Sankosh and Raidak.

The old 2′–0″ gauge railway on the Kishanganj-Siliguri section was for most of its length laid like a tram line on the berm of a road. For the new metre gauge line bridges, buildings and other structures had to be renewed almost wholesale. Work on this section, therefore, was not conversion from one gauge to another, but practically construction of a new metre gauge railway.

In the Siliguri-Bagrokote section, the most important problem was the bridging over a number of rivers and streams which run through the rugged country before debauching into the plains. The total number of bridges built on this section alone is over a hundred, the most important of these over Tista has one span of 250 ft. clear and four spans of 150 ft. clear.

Madarihat and Hasimara are separated by a distance of five miles only as the crow flies, but the gap was not filled so far by a railway because of the difficulty to bridge the Torsa river. This has now been bridged by nine spans of 150 ft. girders each.

The section between Alipur Duar and Fakiragram did not present any special difficulties, except for the crossing of numerous streams and rivers, but railway construction in the middle portion of about five miles was a very heavy task. The country which is overgrown with impenetrable thick forests and is cut across by rivers Sankosh and Raidak with numerous tributaries was not accessible except by foot or on elephants. In this length the river Sankosh has been bridged with six spans of 150 ft. clear each.

The magnitude of the work involved in the construction of the Assam Rail Link can be judged by the fact that no less than 379 channels varying in size of the bridge openings from 3 ft. to 1,425 ft. spread over a distance of 250 miles had to be bridged within a period of practically one working season. Including the Tista, Torsa and Sankosh, there are 22 rivers where deep well foundations have been provided. On the Tista river, heavy boulders up to six feet in diameter and buried tree trunks were often encountered in well sinking, which had to be done under compressed air. Training of rivers with steep bed slopes, high velocities and plenty of flotsam during the floods was another difficult problem successfully tackled. For the first time in India, prestressed concrete girders of 60 ft. and 40 ft. spans have been used on this project for three of the bridges.

The total roofed area required both for service buildings and residential accommodation on this construction amounted to 550,000 sq. ft. Cement concrete hollow block construction with power-driven block making machines was adopted, and when the production was in full swing over 10,000 blocks of size 16″ × 8″ × 8″, sufficient to put up 2,500 sq. ft. of built-up area, were being made daily.

The successful completion of the Assam Rail Link Project ahead of schedule and in the face of many difficulties marks an important step forward in the railway development plans in India.

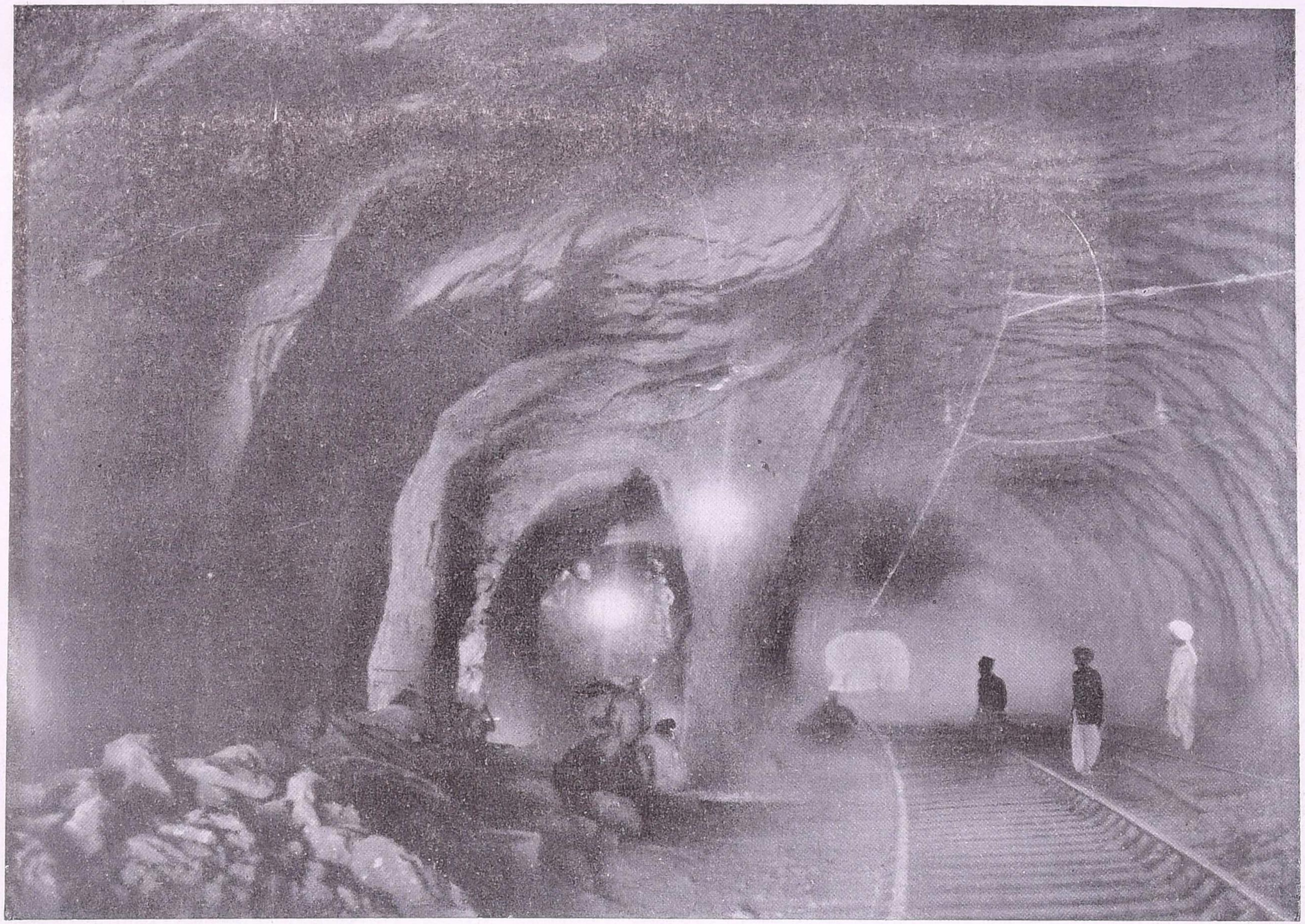
(2) *Conversion of Siliguri-Haldibari section from broad gauge to metre gauge.*—The broad gauge section between Siliguri and Haldibari stations located in India which was worked by the Eastern Bengal Railway (Pakistan) since partition was taken over on 20 January 1950. The section was converted to metre gauge up to Jalpaiguri by 23 January 1950, and through to Haldibari on 26 January 1950, and was connected with Siliguri North station on the new Assam Rail Link with a bridge over the Mahanadi river.

Other important works which were carried out or sanctioned during 1949-50 for increasing line capacity, improving operational facilities, etc., are given in the following paragraphs.

75. Open line improvements.

Assam Railway—

(1) *Alipur Duar—Construction of a new station, goods and marshalling yard, and loco shed with necessary staff quarters in connection with junction arrangements*—Cost Rs. 1,50,72,000.—The situation created by the division



A SINGLE LINE BRANCH TUNNEL TAKING OFF FROM ONE OF THE EXISTING DOUBLE LINE TUNNELS ON THE BHORE GHAT—BOMBAY END VIEW

of India was met by increasing the facilities for accommodating engines at Amingaon and Domohani sheds as a temporary measure. These measures were not, however, adequate to meet the demand when the Assam Rail Link route was opened. It was, therefore, decided to provide a junction station at Alipur Duar with a marshalling yard and a locomotive shed to house 70 engines and other auxiliary works. The work is in hand.

Bengal Nagpur Railway—

(2) *Additional traffic facilities at Tatanagar*—Cost Rs. 3 lakhs.—These facilities were required to deal with additional traffic and about 90 per cent of the work was completed during the year.

(3) *Increased section capacity on the Gua Branch*—Cost Rs. 4,84,000.—The work of constructing two crossing stations was undertaken and completed during the year.

Bombay, Baroda and Central India Railway—

(4) *Doubling of the Anand-Barejadi Section*—Cost Rs. 91 lakhs.—A reference about this work was made in the last year's report. Doubling of a total length of 25 miles—22·25 miles between Anand and Mehmadabad and 2·75 miles between Kanuj and Barejodi—was completed and opened to traffic during the year. The balance of the work is in progress.

(5) *Agra East Bank—Providing additional transhipment facilities*—Cost Rs. 4,65,200 —This work was necessitated for the movement of gypsum traffic from Rajasthan to the Sindri Fertiliser Factory and has been completed.

East Indian Railway—

(6) *Sahebganj Loop—Increasing line capacity*—Cost Rs. 15,91,000.—To cope with the increased traffic on this branch consequent on the opening of the Assam Rail Link it became necessary to carry out certain works for increasing the line capacity of the section. The scheme provides for five crossing stations, improvement of the marshalling yards at Rampurhat and Sahebganj and certain additions and alterations to Sakrigali Junction and Ghat. The work had made good progress during the year.

Great Indian Peninsula and Eastern Punjab Railways—

(7) *Partial doubling of the Mathura-Delhi section*—Cost Rs. 103·65 lakhs.—The first phase of the work comprising of doubling between Ballabhgarh and New Delhi and certain ancillary works such as opening Bad and Runkutta as crossing stations were completed during the last year and brought into operation in February 1949 for goods traffic. The second phase consisting of doubling 20·25 miles of track between Mathura and Chhatikara and Chata and Hodal and certain other ancillary works was completed during the year and opened to goods traffic on 1 December 1949.

Great Indian Peninsula Railway—

(8) *Removal of infringements at Bhore and Thull Ghats*—Cost, Bhore Ghat Rs. 1,31,90,014; Thull Ghat Rs. 75,85,807.—The project, which was sanctioned on 18 January 1946, consisted of widening track centres from 12′ to 15′-6″ with additional allowance on curves and included widening of six tunnels on Bhore Ghat and one on Thull Ghat and day-lighting of some short length tunnels. The work continued to make good progress, and is programmed to be completed in all respects by the end of December 1950.

(9) *Budni-Barkhera—Construction of new Down Main Line*—Cost Rs. 1,93,91,866. A brief reference to this line was made in the report for 1947-8. The construction of the new line with flatter gradients and intended to eliminate the necessity of banking assistance to ascending trains on the heavily congested Ghat section between Budni and Barkhera was commenced on 1 October 1948. A considerable portion of the work including excavation of two tunnels is being done departmentally.

Madras and Southern Mahratta Railway—

(10) *Improvement to traffic operating facilities on the North-east line between Madras and Vizagapatam*—Cost Rs. 25,91,800.—A reference was made in the last Report about increasing the track capacity on this section. Of the 43 stations included in the scheme, work at 22 stations was completed during the year. Out of these 22 stations, second platforms have been provided at 11 stations, additional loops combined with rail-level platforms at eight stations and additional water columns have been erected at three stations.

Oudh Tirhut Railway—

(11) *Sakrigali-Manihari route—Improvement of line capacity between Kishanganj and Manihari*—Cost Rs. 5,76,000. This work was necessitated to deal with additional traffic consequent on the opening of the Assam Rail Link.

76. Important works sanctioned.

Assam Railway—

(1) *Removal of reversal at Gitaldah*—Cost Rs. 6,35,000.—With the linking of the Fakiragram-Alipur Duar section, it became necessary to avoid reversal of buffers at Gitaldah junction, and a scheme involving the construction of a new station yard with a station building, staff quarters, etc., was accordingly sanctioned.

(2) *Construction of a combined bridge and signal workshop at Bongaigaon*—Cost Rs. 6,97,668.—The partition left the Assam Railway without Bridge and Signal workshops, and Bongaigaon, where certain facilities were already available, was considered to be the best place for providing a combined workshop.

East Indian Railway—

(3) *Providing temporary works in connection with Kumbh Mela at Hardwar during 1950*—Cost Rs. 7,00,185.—These works were considered very essential for providing facilities to the public visiting Hardwar during the Kumbh Mela.

Oudh Tirhut Railway—

(4) *Additional facilities for stepping up Ferry capacity at Bhagalpur Ghat*—Cost Rs. 1,77,936.—This work was necessary for increasing the ferry capacity to deal with increased traffic.

77. **Bridge strengthening and protection programme.**—Details of important items relating to bridges completed or in progress at the close of the year, are given below:—

(a) *Assam Railway—*

(1) Reconditioning and strengthening of 4 × 60′ spans at mile 370/17-18, and 3 × 60′ spans at mile 367/17-18, between Lumding and Belengfer, *in progress.*

(2) Removal of 4 × 60′ spans of Dhansiri at mile 419/17-18 between Bokajam and Novajam, *in progress.*

(3) Extension of left guide bund of Beki Bridge at mile 264/1-6 between Sorbhog and Balkola Road, *in progress.*

(b) *Bombay, Baroda and Central India Railway—*

(1) Renewing heavily corroded top angles of the stringers of the Tapti Bridge No. 452 (10 × 182′) at mile 168/15 between Surat and Utran. The stringers of the Tapti River girder bridge are badly corroded under the sleeper seats. The corroded angles are being renewed.

(2) Re-girdering and reconditioning (including strengthening, if necessary) of girders and re-building defective sub-structure of bridges which are at present not strong enough to carry 20-ton axle load of standard

"X.C" engines. Re-building of defective sub-structure or providing the reinforcement concrete box culverts for bridges Nos. 82, 83, 100, 101, 409, 411, 412, 438, 444, 517, 518, 519 and 520, is in progress.

(3) On the metre gauge section, several rail girder minor bridges were converted to reinforced concrete flat tops on Klon-Bijapur, Ambliasam and Mahsana-Taranga Hill sections.

(c) *Bengal Nagpur Railway*—

(1) *Langulia Bridge.*—The replacement of the old spans in the Langulia Bridge (7 × 150′ spans) by new welded spans was completed during the year, and the speed restrictions on this bridge removed.

(2) *Damodar Bridge near Asansol.*—The girders on this bridge were damaged on account of a fire to the Sleeper Decking which was provided, as a temporary measure, during the war. The damaged 200′ spans are being replaced by 100′ girders by providing intermediate piers. Three new piers on this bridge were completed and the work is in progress on the fourth pier. Six new 100′ spans have been placed in position and three of the old damaged 200′ spans have been dismantled and removed.

(d) *East Indian Railway*—

(1) *Ganga Bridge Project at Mokameh.*—The construction of a bridge across the Ganga River at Mokameh with a transhipment yard between the O. T. and the E. I. on the north bank of the river, estimated at Rs. 12 crores, was sanctioned during the previous year and preliminary arrangements were taken in hand. Owing to financial stringency, however, it was decided in September 1949 to postpone the work for two years. Model experiments are being continued at Research Institution, Poona, to find out the possibility of building a bridge at Patna and to investigate the design of training works at Mokameh.

(2) *Malaviya Bridge across the Ganga at Banaras.*—During the abnormal floods in the Ganga in September 1948 the pitching round piers Nos. 2 and 3 was washed away and pier No. 3 showed signs of tilting. The pitching was restored by heavy stones of $\frac{1}{3}$ tons in weight mixed with one-man size boulders. At the toe of the pitching two layers of concrete blocks 8′ × 5′ × 1′-6″ bound together by chains have been laid.

(3) *Bridge No. 120 at mile 60/11-12 on Main Line on Sealdah Division.*—Piers Nos. 3, 5 and 6 of this bridge consisting of 10 Nos. 30′ girders were showing signs of cracks. The bridge has shallow foundations extending to 2′-6″ only below bed level. The piers have been strengthened by driving steel sheet piles all round the piers to a depth of about 20′ below the bed level. The top one foot between the piles and the piers has been plugged with cement concrete.

(e) *Madras and Southern Mahratta Railway*—

Twenty-eight bridges were reconstructed during the year—13 on the broad gauge and 15 on the metre gauge.

78. **Permanent way renewals and welding of rail joints.**—In view of the acute shortage of rails and other types of sleepers, the track renewal programme for 1949-50 had to be limited to renewals which were absolutely essential for safety and was prepared on the basis of availability of track materials with a net total provision of Rs. 747 lakhs.

Details of some of the important works completed or in progress at the close of the year are given below.

Assam Railway.—Relaying $41\frac{1}{4}$ lb. rails with 60 lb. R.B.S.[1] and 50 lb. rails on the Bengal-Doars section.

With the opening of the Assam Rail Link, portions of the Bengal Doars section formed part of the main line between Assam and the rest of India. Out of a total of 47·8 miles to be relaid, 31·5 miles have been completed.

[1] R. B. S. stands for Revised British Standard.

Bombay, Baroda and Central India Railway—

(i) *Bombay-Baroda section.*—Relaying 36 miles of 90 lb. rails on C. I.[1] pot sleepers with 90 lb. rails on steel trough sleepers between Virar and Vangaon on the Up line.

The work has been completed, except relaying of points and crossings.

(ii) *Tapti Valley Railway.*—Relaying 69 lb. rails on C. I. pot sleepers with 75 lb. 'R' rails on steel trough and CST/9 sleepers on Amalner-Jalgaon section.

The work has been completed except for relaying of station yards.

(iii) *Bombay-Baroda section.*—Relaying 23 miles of 90 lb. rails on C. I. pot sleepers with 90 lb. 'R' rails on steel trough sleepers.

Rails and sleepers are being received.

Bengal Nagpur Railway—

(i) Relaying 24 miles of 90 lb. B.S.[2] rails on steel and C. I. plate sleepers with 90 lb. 'R' rails on wooden sleepers and C. I. bearing plates between Howrah and Khargpur.

(ii) Renewing 30·125 miles of 90 lb. B.S. rails on N + 3 steel sleepers with 90 lb. 'R' rails on N + 4 steel sleepers between Hatbandh and Raipur.

(iii) Renewing 18·5 miles of 90 lb. B.S. rails with 90 lb. 'R' rails on existing sleepers between Kharsiah and Jharradiah and Champa and Akaltara.

East Indian Railway—

(i) Primary relaying with 90 lb. rails and C. I. sleepers (N + 4 + D) on Up main line releasing 115 lb. rails and C. I. and wooden sleepers—13 miles.

(ii) Primary relaying on Down main line between Jhaja and Moghalsarai with 90 lb. rails and steel sleepers releasing 88½ lb. rails and D. O. sleepers—10 miles.

(iii) Primary relaying on Moghalsarai-Ghaziabad section with 90 lb. rails and steel trough sleepers releasing 88½ lb. rails and D. O. sleepers—80 miles.

A length of 61·71 miles of primary relaying and 24·56 miles of secondary relaying was completed during the year.

Great Indian Peninsula Railway—

(i) *Bhusaval Division.*—Relaying of old 100 lb. B. M. S. track on C. I. pot sleepers with 90 lb. 'R' FF BSS[3] rails on CST/9 sleepers between Nasik Road and Odha and Jalgaon and Duskheda—51·42 miles.

(ii) *Nagpur Division.*—Relaying of old 82 lb. B.S. track on C. I. pot sleepers with 90 lb. 'R' FF rails on CST/9 sleepers of Down line on Budnera-Tuljapur section—73·826 miles.

(iii) *Jubbulpore Division.*—Relaying of old 80 lb. track on C. I. pot sleepers with secondhand 100 lb. B.H.[4] 33′ cropped rails with new 18″ long E type fishplates, new fishbolts, nuts and keys on secondhand C. I. pot sleepers on Bina-Katni section from mile 661·602 to 702·93—40·93 miles.

[1] C. I. stands for Cast Iron.
[2] B. S. stands for British Standard.
[3] FF BSS stands for flat foot, British Standard Specification.
[4] B. H. stands for Bull head.

(iv) *Jhansi North Division.*—Agra-Delhi Chord—Relaying of old and worn 85 lb. B.S. track on C. I. pot sleepers with 90 lb. 'R' rails on CST/9 sleepers—46·47 miles.

A length of 137·72 miles of primary relaying and 38·05 miles of secondary relaying was completed during the year.

Madras and Southern Mahratta Railway—

(i) Relaying with 90 lb. 'R' rails on CST/9 sleepers in lieu of existing 80 lb. B. H. rails on C. I. pot for 30 miles between miles 240 and 270 on North-west line.

42 per cent of the work has been completed.

(ii) Relaying with 50 lb. 'R' FF rails on wooden sleepers in lieu of existing $41\frac{1}{4}$ lb. rails on steel sleepers for third 45 miles on Gadak-Sholapur from mile 87·25 to 130·95.

Progress on the work is 25 per cent.

(iii) Relaying with 60 lb. 'R' FF rails on wooden sleepers in lieu of existing $41\frac{1}{4}$ lb. FF rails on wooden sleepers for 57 miles on Guntur-Macherla branch—

54·9 miles Main line } from mile 18·8 to 573·7
2·1 miles Main Loop }

83 per cent of the work has been completed.

A length of 36·72 miles of primary relaying was carried out during the year.

Oudh Tirhut Railway—

(i) Replacing 88·98 miles from Basti to Burhwal.

(ii) Replacing 18·65 miles of 50 lb. N.S.[1] rails with 60 lb. rails from mile 34/6-7 between Pusa Road and Dholi to Muzaffarpur.

(iii) Replacing 53·67 miles of existing 50 lb. N.S. rails with 60 lb. ASCE[2] rails and 60 lb. B.S. rails between Katihar West and Barauni.

(iv) Replacing 18·72 miles of $41\frac{1}{4}$ lb. rails with second hand 50 lb. N.S. rails between Padrauna and Captainganj.

In all a length of 161·30 miles of primary relaying and 18·72 miles of secondary relaying was carried out during the year.

South Indian Railway—

(i) Removing the existing 35 lb. FF rails on wooden sleepers and relaying with 50 lb. 'R' rails in Main line and on the sidings in Quilon-Trivandrum Railway from mile $479/1\frac{3}{4}$ to $488/8\frac{1}{2}$ and $493/9\frac{1}{4}$ to $499/6\frac{1}{2}$ — total 15 miles.

(ii) Removing the existing 60 lb. rails on wooden sleepers and relaying with 80 lb. B. H. rails on C. I. pot sleepers between Magnesite Junction and Tolasampatti—5 miles.

(iii) Removing the existing 50 lb. B. H. rails and relaying with 50 lb. 'R' FF rails on Katpadi Branch—5 miles.

A length of 15 miles of primary relaying on broad gauge and 47 miles on metre gauge and secondary relaying of 5 miles on broad gauge and $17\frac{1}{2}$ miles on metre gauge was completed during the year.

Welding of rail joints—

Bengal Nagpur Railway.—1,192 rail joints in a length of 6·08 miles on Howrah-Khargpur section were welded by Thermalite process.

[1] N. S. stands for Non-standard.
[2] ASCE stands for American section.

East Indian Railway—

(i) 1,000 joints on a length of 3 miles on Dinapore Division were welded by Thermalite process.

(ii) 811 rails—132′ long each formed by cropping and welding old rails by Flash-Butt welding process were laid in a length of 10 miles between Rosa and Shahjahanpur on Up line and Rosa and Aieawan on Down line on Moradabad Division.

South Indian Railway.—1,480 joints were welded on the S. I. Railway by Thermit process in the following mileages:—

Mile 3/2-3 to 4/2-3 in Madras Suburban Section.

Mile 18/10 to 33/13½ and 33/22 to 34/2 between Tambaram and Chingleput Junction.

79. Locomotive manufacturing works project.—A reference to this project was made in the annual reports for 1947-8 and 1948-9. The work was started in 1948 and since then it has continued to make good progress. Almost all the land required for the project measuring about 4,000 acres has been acquired. Only about 200 acres still remained to be taken over. Out of seven main units comprising the Workshops, two units, *viz.*, the Light Machine Shop and the Pattern Shop have been erected and work on the remaining five shops is in progress. The work has been so programmed as to facilitate the units being brought into useful production of locomotive parts as and when they are ready. The structural portion of the remaining shops is expected to be completed by the end of September 1950, and erection of machinery in the shops will follow the structural work.

As already mentioned in the last report, a modern township of 5,000 houses is being provided in colonies laid out on the 'neighbourhood unit' basis each being self-contained to a great extent with shops, schools, dispensaries, playgrounds and social amenity centres. Approximately half the construction work on these has been completed and work is well in hand on the remaining portion.

The Light Machine Shop was put into operation on 26 January 1950, and some of the components of locomotives are already being produced in the shop.

80. Wireless communication on railways.—The wireless system has contributed appreciably towards increased efficiency of traffic operation on the railways. Several additional wireless circuits have been established during the year. Among these may be mentioned the extension of the scheme to provide direct communication between Sakrigali Ghat, Katihar, and Manihari Ghat on the E. I. Railway, and the formation of the Gorakpur-Dinapore and the Calcutta-Gorakpur-Pandu-Katihar Wireless Links on the O. T. Railway. The installation of wireless stations at Mahadeopur Ghat, Barari Ghat, and Bhagalpur on the eve of the opening of the Assam Link was mainly responsible for assuring traffic operation at these important transhipment termini being carried out according to schedule.

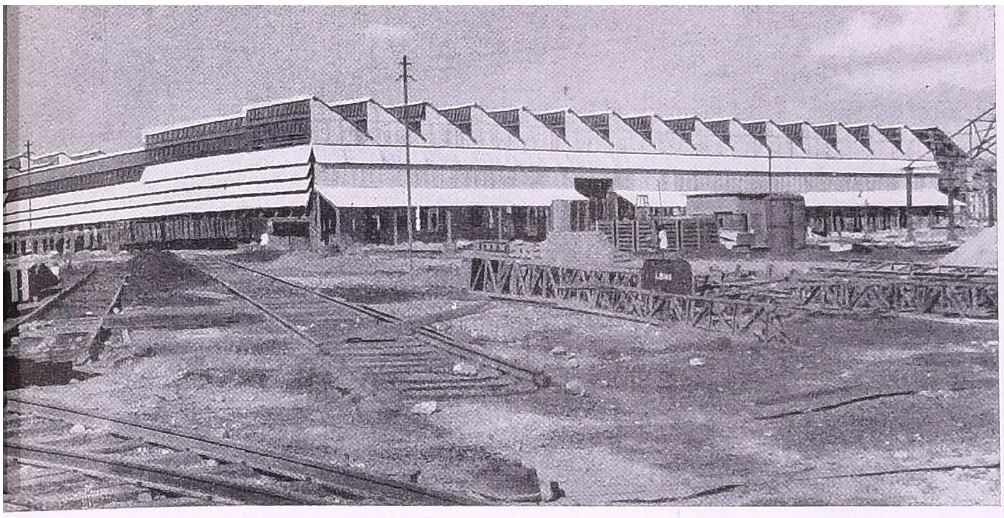
81. Improvement to line telecommunication on railways.—The Posts and Telegraphs Department have completed the erection of some of the Administrative Lines on certain sections on the E. I., G. I. P. and the B. B. & C. I Railways. On the S. I. Railway certain control circuits have been extended with a view to improve operational facility.

Railway Telecommunications Committee.—Very close liaison has been maintained throughout the year between the Railway and the Posts and Telegraphs officials by frequent meetings, etc., with considerable improvement in circuit efficiency.

Public Call Offices.—Public telephones were provided at a number of stations for the convenience of the public.

Loud Speaker Announcing System.—On a number of stations on the E. I. and O. T. Railways, loudspeaker announcing systems were provided to facilitate announcements being made for the information of the passengers on platforms, etc.

CHITTARANJAN LOCOMOTIVE WORKS



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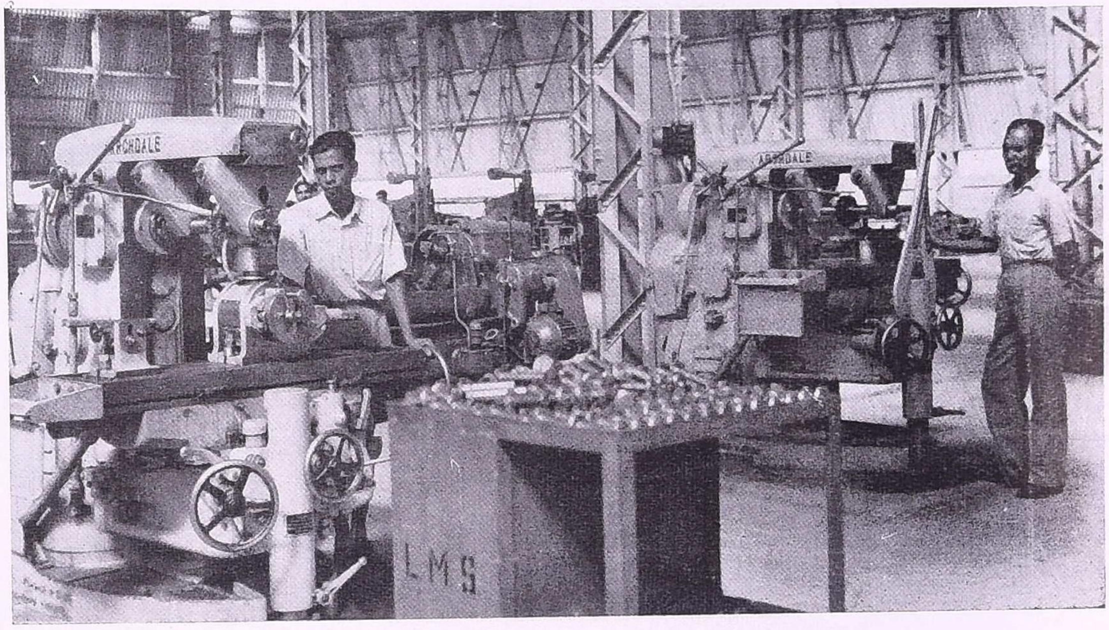
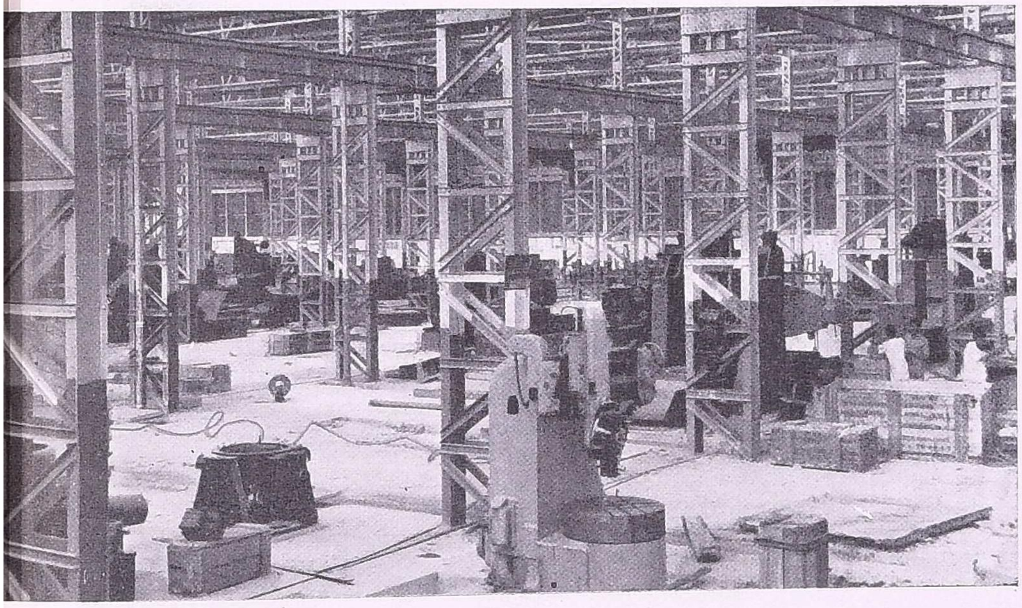
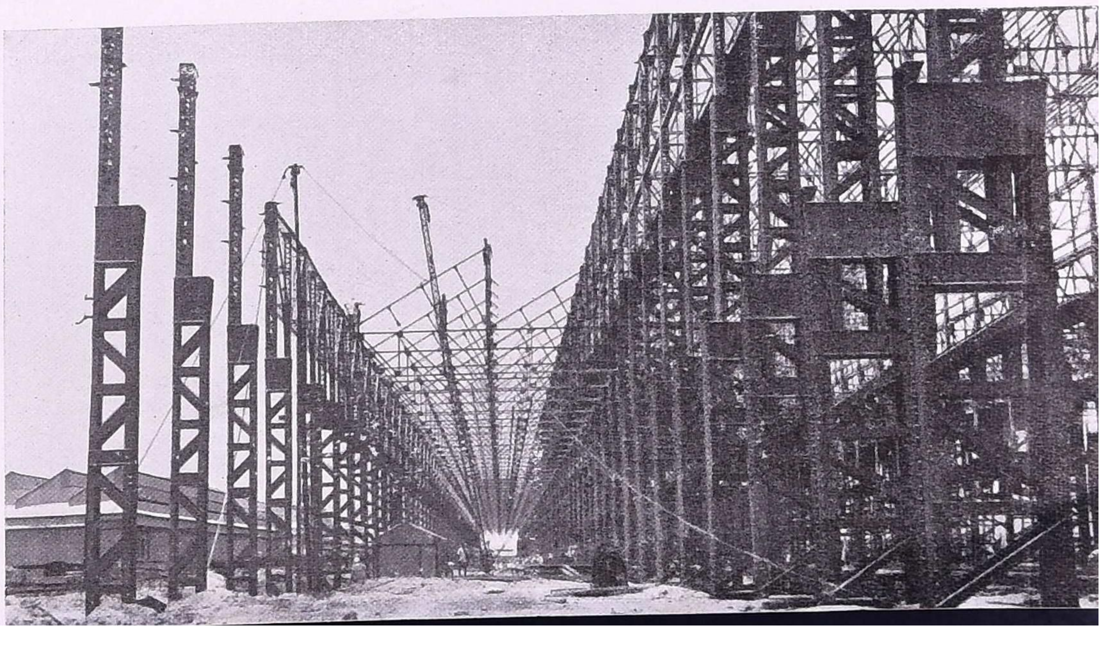


PRODUCTION OF COMPONENTS IN LIGHT MACHINE SHOP



HEAVY MACHINE SHOP—MACHINERY UNDER ERECTION



MAIN ASSEMBLY—END BAY 1,560 FT. LONG

CHAPTER V

RAILWAY COLLIERIES

82. Output from principal railway collieries.—The total output from the principal Railway collieries during the year 1949-50 as compared with that during the previous year is shown in the accompanying table. There has been a decrease of 37,349 tons or 1·27 per cent as compared with the previous year.

OUTPUT OF COAL FROM RAILWAY COLLIERIES DURING 1949-50.

(Figures in tons)

Colliery	Railway	1948-9	1949-50				
			Total	Selected		Grade	
				A	B	I	II
1. Bhurkunda .	E. I. . .	115,141	**146,362**	..	..	**146,362**	..
2. Kargali .	G. I. P. .	606,518	**607,822**	..	..	**567,111**	**40,711**
3. Kurharbaree & Serampore.	E. I. . .	445,983	**373,960**	**373,960**	..	..	..
4. Joint Bokaro	E. I. & B. N.	1,090,217	**1,199,495**	..	..	**1,199,495**	..
5. Joint Sawang	E. I. & B. N.	45,899	**37,244**	..	..	**37,244**	..
6. Jarangdih .	B., B. & C. I. & M. & S. M.	21,315	**30,398**	..	..	..	**30,398**
7. Talcher .	M. & S. M. .	139,570	**127,478**	..	..	..	**127,478**
8. Kurasia .	B., B. & C. I.	309,659	**248,843**	..	..	**248,843**	..
9. Argada .	B. N. . .	128,947	**95,748**	..	..	**95,748**	..
10. Deulbera .	B. N. . .	66,776	**65,326**	..	..	..	**65,326**
	TOTAL .	2,970,025	**2,932,676**	**373,960**	..	**2,294,803**	**263,913**

The total quantity of coal despatched by railway collieries during 1949-50 amounted to 2,354,244 tons, of which 2,250,970 tons, or 95·6 per cent were despatched to railways. This represents 21·8 per cent of the total coal consumption of railways during the year.

83. Coking coal.—The particulars of the coking coal produced by railway collieries during the year are summarized in the following statement:—

Colliery	Grade	Tons produced	Quality of coal and where used
1. Kargali	Grade I .	567,111	Inferior coal of high ash content and poor coking proportion; used entirely for goods service.
	Grade II .	40,711	Very inferior coal unsuitable for metallurgical purposes owing to high ash content; used for slow goods and shunting services.
2. Giridih (Kurharbaree and Serampore).	Selected A .	373,960	Best high grade coal, the dust of which is manufactured into hard metallurgical coke for use in railway foundries and workshops; used for mail and express goods services.
3. Joint Bokaro . . .	Grade I .	1,199,495	Inferior grade coal, the dust of which only is suitable for metallurgical purposes; the seam worked as a whole, owing to high ash content, unfit to be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to; used entirely for goods services.
4. Joint Sawang . . .	Grade I .	37,244	Ditto.
5. Jarangdih	Grade II .	30,398	Very inferior coal, unsuitable for metallurgical purposes; used for slow goods and passenger services.
6. Argada	Grade I .	95,748	Inferior grade coal unsuitable for metallurgical purposes owing to its high ash content; used for goods and shunting services.

84. Total coal consumed by railways.—The total amount of coal consumed on Class I, Class II and Class III Railways during the year is shown below, along with figures for the previous year.

	Tons 1948-9	Tons 1949-50
Class I Railways—		
Indian Government Railways	9,198,855	**9,593,139**
Other Class I Railways	376,644	**405,062**
Class II Railways	235,453	**230,440**
Class III Railways	84,795	**91,067**
Total	9,895,747	**10,319,708**

The distribution by grade of the total quantity of coal consumed by railways is as follows:—

Grade.	Tons 1948-9	Tons 1949-50
Selected A	1,158,832	**1,244,435**
Selected B	2,154,491	**2,423,289**
Grade I	4,533,986	**4,619,807**
Grade II	1,457,662	**1,498,954**
Grade III—A and B	205,457	**88,324**
Small coals	385,319	**444,899**
Total	9,895,747	**10,319,708**

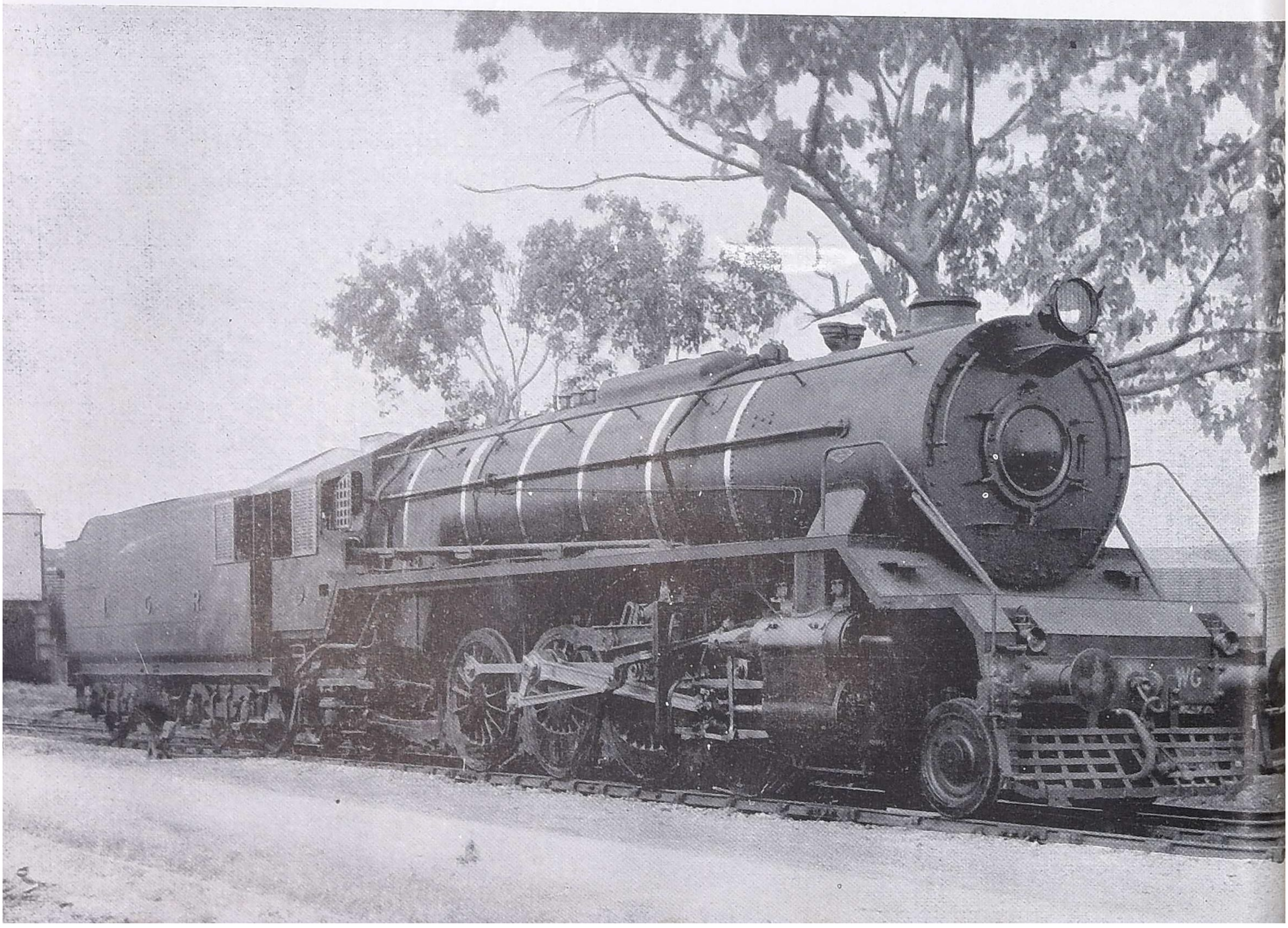
85. Coal mined in India.—In 1949-50, the coal mined in the various provinces of India amounted to 30,308,525 tons as against 27,438,802 tons in 1948-9, an increase of 2,869,723 tons.

86. Coal despatched by rail.—The quantity of coal carried by the East Indian and Bengal Nagpur Railways during 1949-50 was 26·58 million tons, or 2·13 million tons more than that carried during the previous year. The comparative figures for the two railways are as follows:—

	Tons 1948-9	Tons 1949-50
East Indian Railway	14,919,713	**17,398,166**
Bengal Nagpur Railway	9,526,943	**9,177,713**
Total	24,446,656	**26,575,879**

W P ENGINE HAULING A MAIL TRAIN

W G LOCOMOTIVE



CHAPTER VI

ROLLING-STOCK AND MATERIALS

87. **Additions to equipment.**—During the year orders for the following locomotives and rolling-stock were placed for broad and metre gauge Indian Government Railways:—

Items	Broad gauge	Metre gauge
Locomotives	..	4
Coaching stock	104	..
Goods stock	4	..

New locomotives and rolling-stock actually placed on line during the year as additions or replacement were as under:—

Items	Broad gauge	Metre gauge
Locomotives	395	17
Coaching stock	301	318
Goods stock	1,444	..

(Figures for coaching and goods stock are in terms of four-wheeled units.)

88. **Locomotives.**—The average tractive effort per engine expressed in lbs. on Class I Railways during 1949-50 as compared with that during 1948-9, showed a slight increase for the steam locomotives on both gauges. The average tractive effort for diesel electric locomotives and electric locomotives remained the same as during last year. The detailed figures are shown in the following table:—

AVERAGE TRACTIVE EFFORT PER ENGINE IN LBS.

Locomotives	Broad gauge		Metre gauge	
	1948-9	**1949-50**	1948-9	**1949-50**
Steam (including Sentinel and Clayton types)	27,430	**27,928**	15,797	**16,420**
Diesel electric	25,412	**25,412**	..	..
Electric	30,756	**30,756**	10,400	**10,400**

89. **Manufacture of boilers and locomotives in India.**—The Government of India entered into an agreement for five years from 9 December 1949 with the Locomotive Manufacturers Co. Ltd., London for obtaining technical aid in the development of and for putting into effective operation, the Loco Manufacturing Works at Chittaranjan. In consideration of the technical aid to be received in accordance with this agreement, the Government of India have undertaken to place orders with the Locomotive Manufacturers Company for not less than 200 locomotives spread over a period of five years with a minimum of 40 locomotives per year.

Messrs. Tata Locomotive and Engineering Co. Ltd. completed 18 boilers during the period under review.

90. **Repairs to locomotives in Railway Workshops and Running Sheds.**—Compared to 1948-9 the number of engines under or awaiting repairs in workshops and running sheds have decreased in the year under review.

The overall position of engines out of service has also improved.

91. Rationalization of repair capacity in Railway Workshops.—Owing to the need for economy, it was decided to abandon the proposals for new workshops for the Eastern Punjab and the Assam Railways. To make up the leeway, it is proposed to rationalize the repair capacity of Railway workshops on an all-India basis.

92. Rationalization of manufacturing capacity in Railway Workshops.—Thirteen meetings of Rationalization Committees were held during the year and further progress in the bulk manufacture of spare parts on an all-India basis was made.

93. Supply of rails and fishplates from indigenous sources.—Steel supply position continued to be acute during the year and arrangements had to be made to import 30,000 tons of 90 'R' rails from Canada and another 25,000 tons of 90 'R' rails from the United States in order to meet the requirements of railways for rails and fishplates for 1949-50 in full. From indigenous production, an allotment of about 77,000 tons of steel quota for rails and fishplates was made to Railways during the year.

The actual out-turn of rails and fishplates during 1949-50 by the two indigenous firms, *viz.*, Messrs. Tata Iron & Steel Co. and the Steel Corporation of Bengal, taken together amounted to 67,784 tons.

94. Wooden Sleeper Purchase Organization.—For the economical purchase and equitable distribution of wooden sleepers, pre-partition India was divided into four territorial Sleeper Pool Groups—Northern, Terai, Eastern and Southern—with headquarters at Lahore, Gorakhpur, Calcutta and Trichinopoly respectively. As major portion of the area of the Northern Group fell in Pakistan, the portion left in India and the area on the west of the River Kosi belonging to the Eastern Group were added to the Terai Group which was reconstituted during the year and named the Northern Group.

The Sleeper Groups purchased the following wooden sleepers during 1949-50 :—

—	Broad gauge	Metre gauge	Narrow gauge	Specials
	No.	No.	No.	No.
(a) Northern Group	555,243	859,198	343,192	195,744
(b) Southern Group	37,352	160,059	..	8,553
(c) Eastern Group	253,309	338,587	24,480	65,887
TOTAL	845,904	1,357,844	367,672	270,184

In addition the Sleeper Pool Organization arranged inspection of approximately 23,000 tons of timber against orders placed by the Director General, Industries and Supplies.

The total expenditure of the Sleeper Groups during the year, together with the value of sleepers and specials purchased by them, are given below :—

—	Expenses of the Group	Value of purchases made
	Rs. A. P.	Rs.
(a) Southern Group	50,907 1 0	20,51,603
(b) Northern Group	59,713 0 0	1,20,64,999
(c) Eastern Group	4,23,099 8 0	2,48,81,788
TOTAL	5,33,719 9 0	3,89,98,390

The Eastern Group imported the following creosoted sleepers of Padauk, Gurjan and other hard-wood species from the Andaman Islands :—

Broad gauge—1,026 at Rs. 19-8-0 CIF Calcutta Port.

Metre gauge—3,983 at Rs. 9-8-0 " " "

The average price of first class sleepers in the various Sleeper Groups was as follows :—

—	Broad gauge	Metre gauge
	Rs. A. P.	Rs. A. P.
(a) Eastern Group	18 0 0	8 5 4
(b) Southern Group (Higher Grade)	17 4 6	8 7 9
(c) Northern Group	18 9 8	7 10 2

At the Dhilwan creosoting plant on the Eastern Punjab Railway 275,502 broad gauge and 54,880 metre gauge sleepers of coniferous species were treated during the year with a mixture of 40 per cent creosote and 60 per cent fuel oil. The details are given below :—

	Chir		Fir		Kail	Deodhar
	B.G.	M.G.	B.G.	M.G.	B.G.	B.G.
(a) Number of sleepers treated.	260,455	49,388	916	5,492	11,930	2,201
(b) Average absorption of lbs. mixture per c.ft.	4·77	4·94	4·95	5·24	4·84	3·27
(c) Cost of treating per Rs. sleeper.	3-12-1	2-2-7	2-3-7	1-8-5	2-4-4	2-3-4

Besides these, a number of sleepers for the Irrigation Department, sleeper ends and poles, etc., equivalent to 46,316 B. G. sleepers, were also treated during the same period. *Chir* sleepers were treated by the Rueping process and the others by the full cell process.

At Naharkatiya Treating Plant on the Assam Railway, 12,110 B. G. and 195,073 M. G. sleepers mostly of Hollong species were treated with a mixture of 40 per cent creosote and 60 per cent fuel oil during the year by the full cell process. The average absorption was 9·5 lbs. per c. ft. and the cost of treatment per sleeper was Rs. 4-15-10 per B.G. and Rs. 2-6-3 per M. G. sleeper.

95. Purchase of wooden, cast iron and steel sleepers.—The number of sleepers of various types purchased by Class I Railways during the year is given below :—

—	Wood	Cast Iron	Steel	Total
	No.	No.	No.	No.
Broad gauge	862,720	812,202	496,934	2,171,856
Metre gauge	1,227,859	..	149,803	1,377,662
Narrow gauge	208,485	..	..	208,485
TOTAL	2,299,064	812,202	646,737	3,758,003

In addition, the South Indian Railway manufactured 665 B. G. and 100 M. G. reinforced concrete sleepers for use in yards.

The relative position of the various kinds of sleepers may be seen from the following percentages based on the total number of sleepers on tracks of Class I Railways (excluding B. N. Railway) :—

—	Wood	Cast iron	Steel
	%	%	%
Broad gauge	20·2	56·8	23·0
Metre gauge	65·6	4·3	30·1

96. Value of railway materials purchased.—The total value of stores purchased by the Indian Government Railways during the year amounted to Rs. 86·00 crores.

The value of stores purchased by Indian Government Railways decreased from Rs. 100·44 crores in 1948-9 to Rs. 86·00 crores in 1949-50. The value of indigenous materials purchased decreased by Rs. 19,43 lakhs while that of imported materials increased by Rs. 4,99 lakhs. A substantial decrease of Rs. 24,99 lakhs was recorded under purchase of miscellaneous stores shown in the table below as "All other stores". Barring this and minor decreases under 'stores hardware', copper, tin, etc., and engineering plant and components amounting to Rs. 1,00 lakhs, there was a general increase under all other heads of purchases. The main items of increase were under rolling-stock by Rs. 6,83 lakhs and permanent way materials and track tools by Rs. 3,21 lakhs. Workshop machinery, etc., advanced by Rs. 65 lakhs, electrical and train and locomotive lighting plants, etc., by Rs. 54 lakhs, building materials, water mains, etc., by Rs. 26 lakhs and bridge work and its parts, etc., by Rs. 6 lakhs.

The following statement presents a summary of the stores purchased during 1949-50 and the corresponding figures for 1948-9. The detailed figures are given in Appendix A of Volume II of this Report.

VALUE OF RAILWAY MATERIALS PURCHASED DURING 1949-50

(Figures in lakhs)

Particulars	Imported materials			Indigenous materials	Total purchases	
	Purchased direct	Purchased through agents in India	Total imported materials		**1949-50**	1948-9
	Rs.	Rs.	Rs.	Rs.	**Rs.**	Rs.
(A) Bridge work and its parts, fittings and special fastenings.	..	1	1	8	**9**	3
(B) Engineering plant and components including all hand and power machinery.	1	16	17	17	**34**	36
(C) Workshop machinery, plant and equipment including pneumatic machinery and tools.	58	1,00	1,58	29	**1,87**	1,22
(D) Permanent way material and track tools.	56	1,45	2,01	9,09	**11,10**	7,89
(E) Rolling-stock . .	9,37	78	10,15	6,45	**16,60**	9,77
(F) Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	3	21	24	1,85	**2,09**	1,83

VALUE OF RAILWAY MATERIALS PURCHASED DURING 1949-50—*contd.*

(Figures in lakhs)

Particulars	Imported materials			Indi-genous materials	Total purchases	
	Purchased direct	Purchased through agents in India	Total imported materials		**1949-50**	1948-9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(G) Stores, hardware, copper, tin and zinc-ware, all leather canvas and India-rubber in bulk, materials painters' stores, timber and fuel oil, etc.	9	1,29	1,38	22,08	**23,46**	24,44
(H) Electrical and train and locomotive lighting plants and materials, etc., and telegraph and telephone equipment.	34	1,33	1,67	1,33	**3,00**	2,46
All other stores . . .	8	2,13	2,21	25,24	**27,45**	52,44
TOTAL .	11,06	8,36	19,42	66,58	**86,00**	1,00,44

97. Intake of indigenous goods.—Of the total value of purchases of railway stores and materials made during 1949-50 by the Indian Government Railways, the value of stores imported direct amounted to Rs. 11,05·46 lakhs. Imported stores purchased in India accounted for Rs. 8,36·22 lakhs. The stores of Indian manufacture or of indigenous origin naturally accounted for the bulk of the expenditure, the amount during the year being Rs. 66,58·03 lakhs or 77·42 per cent of the total.

The comparative figures of total purchases for 1948-9 and 1949-50 in respect of the Indian Railways are given below. These include purchases made through the Ministry of Industry and Supply and other Government agencies and purchases of foodgrains for Railway Grainshops.

TOTAL VALUE OF PURCHASES OF STORES

(In lakhs of rupees)

Year	Stores imported direct.	Imported stores purchased in India	Stores of Indian manufacture, or of indigenous origin	Total value of imported and indigenous stores	Percentage of col. 4 to col. 5
1	2	3	4	5	6
1948-9 . .	2,73·97	11,69·33	86,00·88	1,00,44·18	85·63
1949-50 . .	**11,05·46**	**8,36·22**	**66,58·03**	**85,99·71**	**77·42**

98. Value of stores purchased through the Ministry of Industry and Supply.—The comparative figures of the value of stores purchased through the Ministry of Industry and Supply for 1948-9 and 1949-50 are shown below:—

VALUE OF STORES PURCHASED THROUGH THE MINISTRY OF INDUSTRY AND SUPPLY

(Figures in lakhs of rupees)

Year	Total value of stores purchased	Value of stores purchased through the Ministry of Industry and Supply	Percentage of col. 3 to col. 2
1	2	3	4
1948-9	1,00,44·18	55,01·20	54·77
1949-50	**85,99·71**	**39,89·03**	**46·39**

NOTE.—The figures for both the years are exclusive of purchases made for the Railway Board's office and the Chief Mining Engineer, Railway Board.

99. Value of stores purchases controlled by the Railway Board.—As in the previous years, the Railway Board continued to purchase wagons for Indian Government Railways. During the year they also placed orders for coaching stock and locomotive spare parts for these railways. The value of the stores thus purchased during 1948-9 and 1949-50 by the Railway Board is given below :—

VALUE OF STORES PURCHASES CONTROLLED BY THE RAILWAY BOARD.

(In lakhs of rupees)

Year	Total value of stores purchased	Value of stores purchases made by the Railway Board	
		Amount	Percentage of the total value of stores purchased
1948-9	1,00,44·18	3,04·77	3·03
1949-50	**85,99·71**	**4,85·46**	**5·65**

The Board also exercised a great deal of control in the case of purchases of locos, boilers, rails and sleepers for railways during the year under review, but the actual orders for these items are placed either by the railways direct, as in the case of wooden and cast iron sleepers, or through the Ministry of Industry and Supply. The value of these items amounted to Rs. 19,43·70 lakhs during 1949-50 as compared with Rs. 11,86·63 lakhs during 1948-9. The wagons referred to above were manufactured in India.

100. Value of cash purchases in North America, controlled by the Railway Board.—The total debits raised by the Deputy Accountant-General, Industry and Supply, New Delhi, against various Railways during the year 1949-50, on account of the cash purchases in North America, controlled by the Railway Board, amounted to Rs. 16,81,88,941.

101. Stores purchases by Railways.—The value of direct purchases by the Indian Government Railways during 1949-50 amounted to Rs. 41,25 lakhs as compared with Rs. 42,38 lakhs during 1948-9.

102. Stores balances.—The statement below compares the total stores balances at the end of 1949-50 with those at the end of 1948-9. These figures are provisional as the accounts for the period 1 April to 14 August 1947 have not so far been closed.

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1948-9 AND 1949-50

(In lakhs of rupees.)

	1948-9	1949-50
Assam	1,05	**1,00**
Bengal Nagpur	4,97	**5,92**
Bombay, Baroda and Central India	3,06	**4,29**
Eastern Punjab	1,33	**3,02**
East Indian	11,43	**10,71**
Great Indian Peninsula	7,31	**9,52**
Madras and Southern Mahratta	2,47	**3,57**
South Indian	2,02	**2,61**
Oudh Tirhut	1,21	**3,62**
Other Indian Railways	1,59	**1,89**
Total	36,44	**46,15**

There is an increase of Rs. 9,71 lakhs in the value of stores balances on 31 March 1950 over those on 31 March 1949. There have been additions to stock of spares obtained for locomotives purchased in recent years. More stock had to be purchased due to increased consumption expected during the year. The supplies of stores against indents which were placed during previous years but which remained outstanding, were received during the year. There has also been an accumulation of scrap which could not be disposed of by 31 March 1950. Receipts of coal during the latter part of the year also contributed to the increase. Other factors are the return to stores depôts of surplus permanent way materials from works completed, postponed or stopped during the year, stores obtained for specific works which were curtailed on account of the economy drive.

103. Timber supply situation.—The table below shows the quantity demanded and the quantity passed by railways during 1949-50.

SUPPLY OF TIMBER AGAINST INDENTS DURING 1949-50

Period	Quantity indented	Quantity passed
	Tons	Tons
II Quarter of 1949	15,069	11,534
III „ „ 1949	5,464	6,208*
IV „ „ 1949	1,158	8,905*
I „ „ 1950	..	8,480*
TOTAL	21,691	35,127

* Includes arrears.

There was an acute shortage of teak during the year under review and the railways were instructed to use substitutes as far as possible.

104. Steel supply situation.—As compared with the previous year, the supply position of steel sections, other than rails and fishplates, for the year 1949-50, generally remained satisfactory. This was achieved mostly as a result of—

(*a*) an urgent representation of the whole question of steel supplies to railways at the 19th meeting of the Central Board of Transport held in March 1949, which resulted in an appreciable increase in the Railway Board's steel quota for periods III and IV, 1949; and

(*b*) the successful negotiations that were concluded by the Ministry of Industry and Supply for import of steel from abroad.

Save for the first three months of 1949-50, when an allocation of 43,000 tons of steel, excluding rails and fishplates, was made against a total demand of approximately 57,140 tons, the allotments during the remaining nine months of the year were not only equal to the demands but in some cases more than the demands as detailed below:—

Period	Demand of railways	Allocations made by the Priority Authority, *viz.*, the Ministry of Industry and Supply
II April-June 1949	57,140	43,000
III July-September 1949	58,163	74,280
IV October-December 1949	72,900	75,000
I January-March 1950	47,094	47,094

As regards rails and fishplates, supplies to railways from indigenous sources were restricted to the extent of 84,000 tons. This tonnage was quite insufficient to meet railways' minimum demands for efficient maintenance of the permanent way. Orders to the extent of 55,000 tons of rails and fishplates had, therefore, to be placed on the Canadian and U. S. firms for import during the year.

105. Supply position of vital stores or components of first importance.—

Imported stores.—The general supply position of imported stores *ex* U. K. improved during the year with the exception of a few cases which were disappointing owing to shortage of certain raw materials.

The following are the main items of stores outstanding at the close of 1949-50 against CIRS's 1944, 1945, 1946 and 1947 indents :—

Serial No.	1944	1945	1946	1947
1	Chain	Chain	Chain	Lenses
2	Boilers	Loco boilers	Boilers	Motor coach and trailers
3	....	....	Lenses	Chains
4	....	....	Pumps	Loco spares

The main items on order from the United States were spares for locomotives obtained from North America. The general supply position of locomotive spares has been satisfactory during the year.

The supply position of stores *ex* Australia has not been satisfactory and orders for 42 items, consisting chiefly of boiler gauge glasses, still remain to be completed by that country.

The supply position of domestically produced vital items of stores is as summarized in the following paragraphs.

Indigenously produced vital items of railway stores: Wheels, tyres and axles.—Tatas are the only indigenous manufacturers of these items. Their capacity is fully utilized against wagon building programmes and against maintenance requirements of tyres and axles of the Indian Government Railways. Rolling-stock programmes were drawn out every quarter and supplies were arranged on an equitable basis for all Indian Government Railways and other private companies commensurate with the urgency of their requirements. Demands for axles, however, exceeded the manufacturing capacity available and the back-log was, therefore, transferred to the United Kingdom.

C. I. Pipes and Specials.—The indigenous capacity is limited and cannot cope with the demands received by the Director General of Industries and Supplies. The available capacity is booked for Delhi Joint Water Sewage Board, Chittaranjan Locomotive Works, Kandla Development Scheme and other projects till 1952. Steps are being taken to establish additional capacity for manufacture of C. I. Specials of sizes 3″ to 12″. Delivery against the Indian Railways' demands was, therefore, affected.

Steel Castings.—The indigeneous capacity for standard steel castings was surplus and deliveries were up-to-date. As far as non-standard steel castings are concerned, with the exception of highly specialized castings, sufficient capacity is now available and the supply position is satisfactory. Sometimes delays take place owing to the time required for making patterns, tools, dies, jigs, etc.

Permanent way materials.—The supply position of steel continued to be the limiting factor in the production of track material. The position is expected to improve slightly during the next year.

Structurals.—Shortage of steel plates had been the main bottleneck in the manufacture of structurals against Indian Railways' demands.

Fire-bricks.—High heat duty and moderate heat duty bricks were previously supplied to Indian Railway Standard specifications. Supplies are being made in accordance with the Indian Standards Institution specifications. The supply position of such bricks improved during the year.

106. Situation regarding theft of railway property.—Only four cases of thefts of stores and valuable materials from stores and depots were reported during the year. Necessary steps have been, or are being, taken to tighten up security measures to prevent repetition.

107. Water softening.—During the year three more water softening plants were installed by the B. B. & C. I. Railway. Seven more plants are also under installation on the G. I. P. Railway.

CENTRAL STANDARDS OFFICE FOR RAILWAYS.

(A) CIVIL ENGINEERING WING.

108. Research.

1. *Structural research*—

The need to conserve steel for more pressing needs has led to the consideration of prestressed concrete for railway bridge girder spans. Prestressed concrete is more economical in material than ordinary reinforced concrete and the consequent saving in dead weight enables longer spans to be constructed with prestressed concrete. The Central Standards Office initiated designs for spans varying from 40 ft. to 100 ft., and a number of 40 ft. and 60 ft. spans were constructed on the Assam Rail Link. These spans proved adequate under normal traffic, but it was considered advisable that an experimental span should be built and tested under dynamic overload in order to ascertain the factor of safety and the general behaviour of the span under dynamic overloading.

A test span of 40 ft. clear was accordingly fabricated at Kalyan, G. I. P. Railway. The main girders were identical to those erected on the Assam Rail Link but the spacing was altered to suit broad gauge track. The span was tested under an AWE class locomotive, which is the heaviest available on broad gauge with an axle load of 22·2 tons. As the span was situated on a siding, it was not possible to run the locomotive at any speed and the locomotive was, therefore, made to slip on the span in order to obtain the effect of impact. Under these conditions, the load on the span exceeded the design load by 18 per cent. The stresses in concrete and prestressing wires were recorded by electric resistance strain gauges with the locomotive standing on the span and also while slipping. The deflection was also measured under the same conditions.

One of the objects of the test was also to ascertain the extent of damage sustained by the concrete when a derailed wagon passed over the span. For this purpose, an old wagon loaded to capacity was derailed on the span by fly shunting.

The results of test indicated that the behaviour of the span was satisfactory and even when the design load was exceeded by 18 per cent, no sign of distress was visible. Although no damage was caused to the concrete of the main girders by the derailed wagon, except where the derailed wheel passed close to the edge of the girder flange, it was considered desirable that the track rails should be supported on cross sleepers and not fixed directly to the concrete. The report on the test was circulated to all the railways.

2. *Track research*—

With a view to conserving steel and rationalizing the existing rail section, the Central Standards Office designed two new rail sections—80 lb. and 50 lb. respectively, for broad and metre gauges. Plane models of the proposed sections were subjected to two-dimensional photo-elastic analysis at the Institute of Science, Bangalore. As a result of this analysis and on further consideration, the proposed sections have been redesigned. It is intended to

subject the revised designs which are 90 lb. and 55 lb. respectively to three-dimensional photo-elastic analysis before adopting them as standards, and a suitable equipment for this purpose is on order.

A large number of wooden sleepers on bridges and in track are damaged in service by live cinders falling from the ash pans of locomotives. The Central Standards Office in collaboration with the Forest Research Institute, Dehra Dun, has made arrangements to carry out experiments on fire-proofing of wooden sleepers by chemical methods. The treated sleepers will be inserted in track near ashpits and signals, where drivers generally rake out fire, in order to establish the effectiveness of fire-proofing before adopting the process for general use.

3. *Building research*—

Several types of foundations in black cotton soil have been evolved and 27 buildings with different experimental types of foundations have been erected in various areas of black cotton soil and are under continuous observation.

1,076 tests on soils, received from various railway engineers at different places in India, have been carried out and a great number of them have been satisfactorily stabilized. Three experimental buildings at the Research Station and 34 units on various railways have been erected in *PISE'* and *ADOBE* construction and are under observation. The stabilizing agent in all cases is ordinary cement from 3 to 5 per cent in volume.

Many experiments with different types of plaster for stabilized soil walls have been carried out under different weather conditions. A plaster consisting of one part cement, two parts sand and eight parts cinder has been found to be most successful.

Experiments with rough vermuculite are in progress. It has the property of increasing in volume considerably when heated and 'Ex-foliated', and as such it has great heat resisting and high insulating properties. It can be used for insulating plasters and for light weight concrete for a number of purposes.

Experiments on a smokeless chula for coal or coke fuel are in progress.

4. *Soil mechanics research*—

Most of the apparatus and equipment required has been received and the tests and experiments necessary for railway purposes are being carried out.

The Porter Sampler for obtaining undisturbed soil samples was used extensively on the Malviya Rail-road Bridge over the Ganga River at Banaras. It has now been fitted for special work in deep waters.

The problems in connection with foundations—determination of ultimate bearing pressure for bridges, embankments and buildings—are being investigated as they are received from different railways and results forwarded to them. 381 tests on samples of soils undisturbed and disturbed were carried out and the results tabulated by the use of Therzaghi's method for computing the bearing capacity of foundations.

A number of other important cases of bearing values on high cohesive soils for foundations of bridges based on laboratory and site soil investigations were also dealt with during the year.

109. Designs.

Bridges—

Due to overall shortage of steel as referred to earlier, it has been found necessary to adopt prestressed concrete for railway bridge girder spans. Standard drawings for 100′, 60′ B. G. and 80′ M. G. have been prepared.

As box culverts and pipes suitable for replacing small girder spans do not require deep and costly foundations, designs have been prepared for 10′ × 12′ high box culverts. Reinforced concrete pipes from 4½′ to 6′ diameter have also been standardized.

A 350′ span for Chakki Bridge was required in connection with Pathankot-Mukerian construction. As no standard span was available, a design was prepared and the span is being fabricated.

Track—

The wear on switches in diamond crossings is considerable and the switches require frequent renewals and repairs. In order to reduce the impact and wear on the switches, a special type of moveable switch has been designed and is being tried in service.

Fishplates for new rationalized rail sections and also for the electrified sections and junctions have been designed. Cast iron plate type sleepers for 50 lb. flat footed rails have also been standardized.

Signalling and Interlocking—

Design for adjusting sleeves to connect point rodding has been prepared.

Buildings—

Layouts for Senior Institute and also Maternity Centre have been prepared. A smokeless chula has been evolved and tried out successfully.

110. Standards Committees.

Bridge Standards Committee—

The Committee revised the Indian Railway Standard Code of Practice for the design and construction of masonry and concrete arch bridges. The rules for impact allowance on combined road-rail bridges and longitudinal distribution of load on fills were amended. The permissible stresses in the design of bridges were considered.

During the renewal or strengthening of certain parts of bridges, the new material requires to be prestressed in order to distribute properly the load on the existing as well as the new material. The Committee considered alternative methods for inducing stress in the new material.

The rational method of designing reinforced concrete bed blocks was also dealt with.

Structural Standards Committee—

The ways and means of effecting economy in steel and the revision of various clauses in the Structural Codes with a view to permit higher working stresses were examined.

Track Standards Committee—

The method of determining the required strength of temporary gangs, the systematic track maintenance on schedule basis, track renewal programme, optimum depth and section of ballast on various formations under different axle loads and speeds and adoption of more economical standard section for wooden sleepers are some of the important subjects dealt with by this Committee.

Signalling and Interlocking Standards Committee—

Protection of important level crossings, minimum braking distance for sighting the signals, standard form of Safety Certificate for opening signal works, use of 'Perspex' as an alternative to glass for railway signals and manufacture of standard train control equipment were considered by this Committee.

(B) MECHANICAL ENGINEERING WING.

111. Research.

Locomotive Research—

Locomotive research during the year was confined to the study of combustion conditions with Indian coals and to an investigation of the springing of WP locomotives.

Trials were made with the Dynamometer Car on XEI locomotives of the E. I. Railway to study the use of mechanical stokers and to examine their influence on limiting firing rates and boiler efficiency and the possibilities of utilizing coal slack to a greater extent on railways. Coal as raised contains a high percentage of slack and it is now the practice to fire such coal without any special grading. If coals are size graded for use in locomotive fireboxes, the problem of disposal of slack and the smaller sizes of coal would assume larger proportions. The railways as consumers of 40 per cent of the coal raised in India would have to devise means to employ larger proportions of slack economically. One avenue for this increased consumption of the smaller sizes of coal would be by increasing the number of locomotives with mechanical stokers. The tests were, therefore, designed to analyse these possibilities. They showed that high rates of firing could be easily sustained but the losses by carry over of unburnt coal were appreciable with the result that the boiler efficiency suffered. It was believed, however, that by altering combustion conditions so as to admit a fair percentage of secondary air, it would be possible to reduce the carry over of unburnt fuel and to raise boiler efficiency. A further set of trials was, therefore, programmed to follow up this possibility.

Dynamometer trials were also undertaken on an H/5 locomotive with a view to determining the best design of grate for high rates of combustion. The tests covered two proprietary designs of grate, two Indian standard designs and a new design of 'honeycomb' grade evolved in the Central Standards Office. It is interesting to record that the 'honeycomb' type of grate, which is the lightest of the different designs, returned figures of combustion efficiency comparable with the best designs of the more expensive proprietary grates. A similar conclusion was reached on earlier trials on the larger grates of NM Garratt and AWU locomotives at relatively low rates of combustion.

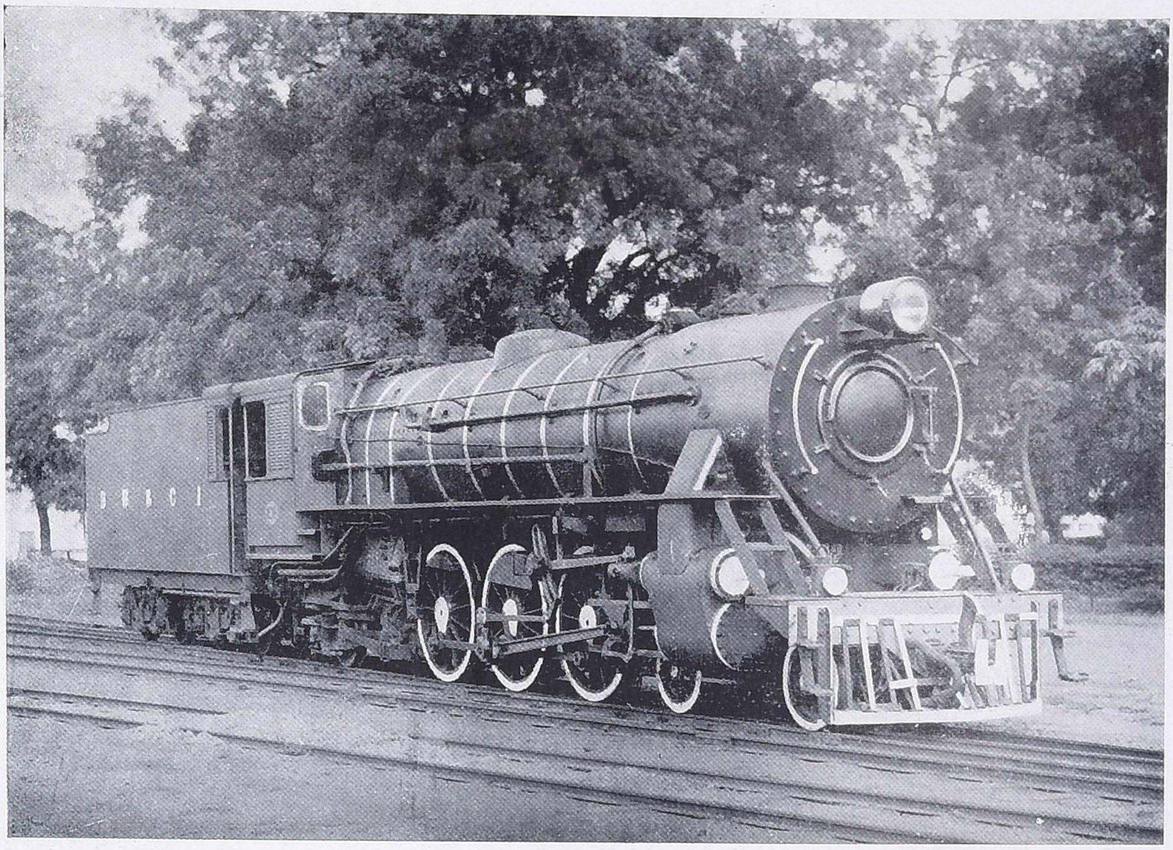
The WP locomotives are known to have excellent riding qualities but in common with all other two cylinder locomotives with a low percentage of reciprocating balance, they are subject to a very slight but noticeable pitching vibration. It was believed that a judicious design of springing for the hind truck of these locomotives could virtually eliminate the slight vertical vibration at the cab end and experiments were, therefore, made with an Oscillograph Car to measure the virtual fluctuations of loading at the hind end of the locomotive with different degrees of stiffness of laminated bearing springs over the hind truck. The variations in vertical loading were linked up with simultaneous records of the variation in tension in the intermediate drawbar. The tests suggest the need for high frequency auxiliary springs at certain points in the spring rigging to obtain more perfect riding and further tests on these proposals have been projected.

Carriage and Wagon research—

The stress analysis of the first prototype lightweight carriage of integral construction designed and built by Messrs. Hindustan Aircraft Ltd. was completed during the year. As a result of this work several modifications of design were found to be necessary. These modifications were incorporated into a second prototype carriage built by Messrs. Hindustan Aircraft Ltd. This second carriage was received at the Research Station at Shakurbasti in November 1949 and tests on it are in progress. It is proposed to subject this carriage to prolonged and exhaustive tests in order to investigate its behaviour under conditions of shock loading such as would occur during collisions or in the event of the carriage capsizing.

Fuel research—

The new fuel research car was commissioned during the year. The fuel research staff were engaged during the year on assisting the railways to over-



Y P LOCOMOTIVE

BRAKE BLOCK BELT IN FOUNDRY

come their fuel problems and in investigating cases where railways were having difficulties with troublesome coals. A good deal of time was spent in tracking down reported cases of excessively clinkering coals and in educating railway operating staff in the correct techniques of handling 'difficult' coals.

112. Designs.

Locomotives—

Locomotive design work was confined largely to perfecting features in existing standard locomotives. Much of the work dealt with minor improvements in the WP prototype locomotives so as to bring them into line with the later WP locomotives on which the improved features had already been incorporated.

A modified design of crosshead in cast iron for WP locomotives was prepared for use in supersession of that prepared by the builders. This design was stress-analysed by the builders and has been accepted by them as a vast improvement on the design they originally proposed.

In addition to the routine work connected with the recommendations of the Loco Standards Committee, the Design Office undertook the preparation of Particular Specifications for a new light passenger locomotive (WL) for which it is proposed to obtain prototypes. Particular Specifications were also prepared for renewal boilers for XB, XC and XE class locomotives. Approved lists of modifications to XA and WM locomotives were also prepared against the possibility of repeat orders for these classes. A specification for new YL class locomotives was also issued.

During and immediately after the war a large group of locomotives of the A/CWD, AWE, AWC and MAWD classes of locomotives were imported. These were largely austerity designs and as they were built in America and in Canada under emergency conditions, they incorporated several features which were not recognized standards in Indian practice. These locomotives have been in operation for some years and they have been subjected to gradual modification to adapt them more closely for Indian conditions. Considerable work on these modifications had to be undertaken in the drawing offices during the year under review.

Carriages—

Designs for all-metal welded lightweight steel passenger coaches were undertaken in close collaboration with Schlieren engineers. These coaches, embodying antitelescopic features, provide for greater safety to human life and additional facilities for comfort during travel.

On the experience gained with the coaches built by the Hindustan Aircraft Ltd. to Model 404, the work of incorporating improvements in details for coaches to Model 407 was undertaken.

Alternative floor plans for postal vans incorporating improved amenities for staff were prepared.

Work in connection with the provision of improved security fastenings in passenger stock was undertaken. This was done with a view to counteract the increasing incidents of criminal assaults on *bonâ fide* passengers.

Detailed investigations were carried out with a view to provide for increased passenger comforts and amenities, especially on long-distance trains. As a result revised amenity schedules were recommended. The improvements consisted in the provision of a better standard of illumination, provision of fannage in third classes, provision of wash-hand basins and mirrors in lavatories of third class coaches.

To improve the riding qualities of metre gauge passenger stock, South African Watson type bogies were introduced and investigations to overcome the teething troubles were undertaken.

Investigations into the design of a National Emblem for Indian Railways and the standardization of a uniform colour scheme for coaches, internal as well as external, were undertaken and recommendations made.

In order to cope with the transport of extra heavy consignments, necessitated by the undertakings of multipurpose irrigation and hydro-electric schemes, special designs for well wagons to transport these consignments were undertaken and finalized.

Intercoupling difficulties with metre gauge stock, which had arisen in connection with the American wagons with non-standard centre couplers, imported during the war, were investigated.

Wagons—

The need for well-ventilated wagons for transport of cattle was felt and as standard designs were not available for such wagons on the metre gauge sections, designs for such stock were prepared.

It was decided to remove pumps from oil tank wagons carrying petrol and oil and instal them at loading and unloading stations. Standard drawing providing bottom discharge for these tanks were prepared.

Due to the shortage of steel that was produced in India and the lack of import facilities, experiments were carried out with lightweight covered and open wagons to form the basis of future builds. It was estimated that about a ton on each wagon could be saved thereby, which would result in a considerable saving of steel when a bulk order for 3000 to 4000 wagons is involved.

Miscellaneous—

Investigations connected with the intercoupling of the different types of centre couplers fitted to M. G. stock.

The normal work of preparing drawings for C. & W. and Electrical Standards Committees and maintaining standard drawings of rolling-stock was continued.

An officer on special duty was appointed to visit major Indian Railways with the object of introducing standards for fire bricks and fire brick arches, and reducing the number of non-standard bricks to the minimum. His report is being examined in the Central Standards Office.

113. Standards Committees.

Locomotive Standards Committee—

The Loco Standards Committee held its annual meeting in the Central Standards Office in February 1950. The discussions of the Committee were confined principally to the improvements of features of existing locomotives. Their principal recommendations were :—

(1) The reversion to riveted construction for tender tanks, experiments with all-welded tanks not having been very successful.

(2) The more extended use of manganese steel facings for parts of a locomotive subjected to wear.

(3) The proposal to employ underhung springs for locomotives with plate frames if such were to be manufactured in future in India.

(4) The adoption of an Indian design of interdrawgear which had proved satisfactory on the WP locomotives.

(5) The acceptance of oil-hardening qualities of silico-manganese steel springs as substitutes for the water-hardening qualities used previously.

(6) The elimination of auxiliary rubber springs on the spring rigging of future locomotives.

Carriage and Wagon Standards Committee—

The following are the main subjects discussed by the Carriage & Wagon Standards Committees :—

(i) Requirements of 4-wheeled refrigerator vans for transport of perishable goods.

(ii) Composition and standard equipment for accident trains.

(iii) Consideration of the scope of light alloy sheets, plates, etc., in carriage and wagon construction, and manufacture of these fittings.

(iv) Adoption of improved interior illumination standards for passenger stock and introduction of embarkation lights near doorways.

(v) Adoption of standard colour schemes for main line coaches.

(vi) Investigation into the fire-preventive measures in passenger stock.

(vii) Examination of the tentative designs for the proposed 10′-8″ wide stock and metre gauge wagon for transport of both cattle and general goods.

Indian Railway Fuel Committee and Fuel Economy Measures—

The Indian Railway Fuel Committee held its third meeting in December 1949 and dealt with a wide range of subjects. The result of its labours was beginning to be felt so far as the fuel consumption of the railways was concerned and the Committee gave careful and detailed consideration to the steps to be taken for maintaining this improvement in consumption figures.

The study of the different locomotive coals being used by railways and the correlating of different railways' experiences regarding these coals continued to be one of the major activities of the Committee. The Committee considered the steps to be taken to eliminate from the supplies to the railways all coals which had given trouble on a number of railways owing to excessive clinkering, or have otherwise been found to be entirely unsuitable for railway use. The recommendations of the Committee on the subject are being followed up.

With a view to reforming the present structure of fuel statistics, a new method of working out fuel statistics has been evolved and this should serve as a useful means of analysing causes of fuel waste. The question of rationalizing the coal utilization policy of railways continued to receive the close attention of the Committee. The Committee felt that substantial economies in the fuel bills of the railways could be achieved by further rationalization of coal distribution and by giving priority to schemes for increased raisings of non-coking coals in those areas where an appreciable proportion of the demand had to be met over long leads. The Committee considered that the railways should be more closely associated with the evolution of coal production and utilization policy of the country to enable the conservation of coking coals for metallurgical purposes to become effective as well as to make the most effective use of the considerable research and development work which had been done by the railways on locomotive and boiler design and on the use of medium grade non-coking coals. It was realized that alterations in the pattern of supplies would have to be introduced gradually in order not to disrupt and unbalance the output of a large number of collieries but the Committee felt that a start should not be delayed. The Committee noted that the distribution of coal was the responsibility of the Coal Advisory Committee on which the railways were not adequately represented. Since the railways consumed over 35 per cent of the total coal produced in India every year, the Committee recommended that the railways should be given proportionate representation on the Coal Advisory Committee. The Committee attached considerable importance to the early implementation of this recommendation specially in view of the imperative and urgent necessity for conserving the limited stocks of metallurgical coal.

With a view to strengthening the Fuel Control Organizations on those railways where these were inadequate, arrangements were made to supply railways with details regarding the methods of working on other railways so that they might incorporate into their organizations such features of the systems in force on other railways as had given good results or made an improvement on their own methods.

The Committee considered the larger proportion of the coal supplied to the railways not conforming to its nominal grade classification as regards ash and moisture content and being often mixed with shale and dust to be one of the major reasons for high fuel consumption. The Committee's definite recommendations regarding steps to be taken to tighten up the quality control organization and to deter the colliery owners from supplying lower grades of coal against orders for higher grades are at present receiving the attention of the Coal Commissioner. Another reason was that coal was being supplied to the railways by over 500 different collieries, the drivers being continually issued with different varieties of coal resulting in inefficient handling and firing due to the impossibility of training engine crews in the proper firing technique applicable to each variety of coal. Efforts are now being made to reduce the number of supplying collieries.

As a result of a review of the suitability of the types of locomotives used for various services as well as the class of coal issued to them, some of the railways have already found it necessary to make adjustments in their power and fuel usage policies. Steps are also being taken to put the trip rationing of coal on a scientific basis. The specification for locomotive coals made by the Committee is to be examined by the Coal Commissioner in consultation with the coal industry before finalization. The question of the economics and the desirability, from a technical standpoint, of washing locomotive coals is under detailed examination of a Sub-Committee. The Committee's recommendations regarding the most suitable type of firegrate for Indian locomotives and Indian coals have since been accepted by the Railway Board.

As to the comparative economics of different methods of traction with special reference to the cost of fuel and of the possibility of extending electrification as a means of consuming a larger percentage of lower grades of coal and coal slack for railway use, the Committee found that in certain areas electric traction and gas turbine locomotives would prove to be more economical than steam traction. As regards the use of gas turbine locomotive, the Committee preferred to wait until the coal burning gas turbine locomotive had emerged from the development stage. It was decided to watch closely the results of the very extensive research and development work which was being done on the subject in foreign countries.

114. Miscellaneous.

Locomotive part drawings—

The scheme for the preparation of locomotive part drawings for the U.S.A. and Canada built locomotives as well as for the I. R. S. locomotives, was taken up during the year. The organization has been located temporarily in Kanchrapara (E. I.) and Ajmer (B. B. & C. I.). During the period progress in the preparation of part drawings for Indian Railway Standard locomotives in the Central Standards Office, and for U.S.A. and Canadian non-Indian Railway Standard locomotives in Kanchrapara and Ajmer was slow owing to the difficulty of recruiting experienced drawing office staff.

(C) GENERAL.

115. Research.

Chemical and metallurgical research—

A number of investigations were carried out during the course of the year on failures of locomotive and track components. Trials of various grades of indigenous fireclay refractory bricks for loco arches were planned with the object of finding out grades yielding the greater overall economy in service. The formula of the Central Standards Office for jointing composition was finalized.

Metallurgical and chemical research and development pertaining to railway problems could not progress during the course of the year owing to lack of laboratory facilities.

116. Specifications.

Indian Railway Standard Specifications—

The normal work of keeping Indian Railway Standard Specifications up-to-date continued throughout the year. One new Indian Railway Standard Specification was issued and 58 specifications were revised and reissued. Besides these, three new Indian Standards Institution Specifications were adopted for use on Railways and eleven War Emergency Revision Slips to Indian Railway Standard Specifications were withdrawn.

Particular specifications for broad, metre and narrow gauge Indian Railway Standard rolling-stock and details prepared were :—

(*a*) Bogie Coaching Underframes (N. G.)
(*b*) NCL Type Wagons
(*c*) NOL Type Wagons
(*d*) MCM Type Wagons
(*e*) Bogie hopper wagons (N. G.)
(*f*) Bogie well wagons, 90 ton (B. G.)
(*g*) Bogie motor and parcel vans (B. G.)
(*h*) 4-wheeler „ „ „ (B. G.)

Particular Specifications—

Particular specifications for the following locomotives were prepared for finalization by Messrs. Rendel Palmer & Tritton :—

(1) 'WL', 'WM', 'XA' } Broad gauge
(2) 'YG', 'YL' } Metre gauge
(3) 'ZB', 'ZE' } Narrow gauge.

117. Standards Committees.

Standing Committee on Standards and Specifications—

The Standing Committee on Standards and Specifications met during the year and decided to recommend the purchase of leather bags for station cash for railways in accordance with the standard approved by railways; as a result of investigations carried out by railways the designs and drawings of the waterproof garments and their materials considered suitable as the future Railway Standard were adopted. The revisions carried out to I. R. S. Specifications during the year were considered and approved. The question of adopting the Indian Standard Specifications for materials used on railways and covered at present by I. R. S. Specifications was considered.

Electrical Standards Committee—

The Electrical Standards Committee met during the year and dealt with the policy to be adopted in connection with the change-over from Double to Single Battery System for coaching stock. The revised draft of I. R. S. Specification No. E6 for Inter-Vehicle Electric Couplers for B. G. and M. G. coaching vehicles was approved. The Committee examined the various typical layouts of the most economical way of satisfactorily lighting platforms at stations, with particular reference to island platforms having trees, and decided that in view of the varying circumstances prevailing at stations, it is not possible to lay down any standard and left it to individual railways to adopt the most economical method. With regard to the reintroduction of external embarkation lights on all future coaching stock, 4 lights were recommended per side in the region of the doorways. The additions and alterations to the coach wiring diagram with a view to minimise the risk of fire in passenger trains were considered and recommended.

Indian Railway Chemists and Metallurgists Committee—

The deliberations of the first meeting of the Committee held in January 1950 covered subjects which included heat treatment of points and crossings; reclamation of used lubricating oils; methods for reducing the number of rejections of castings manufactured in the railway foundries; comparative trials of various grades of fireclay refractory bricks; improvement in the quality of cast iron parts; welding of high tensile and low alloy steels and other important loco components; chemical and metallurgical aspects of specification for coals, lubricating oils and silico-manganese spring steels; and water softening.

118. Miscellaneous.

Inspection of Boilers at Telco Works, Tatanagar—

The periodical inspection records of the Inspecting Officer for Railways, Tatanagar, showing the progress in the out-turn and despatch of 'SGS' (U.K. & U.S.A.) and 'YB' boilers to railways and test certificates continued to be regularly received in the Central Standards Office and examined carefully to check on any departure from the standard designs, specifications, and accepted boiler practice. During the year, Messrs. Tata Engineering & Locomotive Company Ltd., completed and despatched 27 SGS boilers on order with them and received fresh orders for 35 XB, 19 XC and 17 XE loco boilers.

Representation on various bodies—

The Central Standards Office represented the Ministry of Railways on the:—

(1) Central Boilers Board functioning under the Ministry of Works, Mines & Power. Also the Deputy Chief Controller of Standardization (I/C) acted as the Technical Adviser to that Ministry on matters relating to the Central Boilers Act (1923).

(2) Internal Combustion Engines Research Committee of the Council of Scientific & Industrial Research.

(3) Development Committee of the Non-Ferrous Metals Industry functioning under the Director-General of Industries and Supplies.

Library—

During the year under review 80 new books and 20 catalogues have been added to the C. S. O. library, which now contains about 1600 books and 700 catalogues. Journals and periodicals from various institutions and firms were received regularly for circulation and record purposes. Articles of interest were indexed for future reference and guidance.

CHAPTER VII

STAFF

119. Number of staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto, excluding staff employed on construction, at the end of 1949-50 was 899,248 as compared with 927,881 at the end of 1948-9. The total route mileage at the end of the year was 34,022

120. Cost of staff.—The following statement shows the number and cost of all staff, Classes I, II, III and IV, permanent and temporary, open line and construction, employed on Class I Railways during the years 1948-9 and 1949-50. Labour employed by contractors is not included.

NUMBER AND COST OF STAFF ON CLASS I RAILWAYS DURING 1948-9 AND 1949-50

Railway	Year	Number of staff on 31 March: Open line			Construction			Staff on loan from the Indian Audit and Accounts Service	†Cost of staff during the year ending 31 March			
		Classes I & II	Classes III & IV	Total	Classes I & II	Classes III & IV	Total		Classes I & II	Classes III & IV	Total	Total including staff on loan from the Indian Audit and Accounts Service
Assam	1949*	42	37,464	37,506	..	..	..	..	8,67,112	4,07,56,865	4,16,23,977	4,16,23,977
	1950	57	41,395	41,452	..	..	..	..	10,11,365	4,69,64,695	4,79,76,060	4,79,76,060
Bikaner State	1949	24	5,542	5,566	..	..	..	..	1,83,448	42,26,133	44,09,581	44,09,581
	1950	21	5,761	5,782	..	..	..	..	1,79,503	42,54,351	44,33,854	44,33,854
Bengal Nagpur	1949	306	103,339	103,645	..	24	24	1	43,33,439	12,88,42,513	13,31,75,952	13,32,06,858
	1950	253	101,530	101,783	..	..	..	..	39,23,979	12,24,78,277	12,64,02,256	12,64,02,256
Bombay, Baroda and Central India.	1949	161	87,055	87,216	..	..	..	..	33,26,505	11,26,06,154	11,59,32,659	11,59,32,659
	1950	177	89,136	89,313	..	230	230	..	33,59,937	11,25,48,293	11,59,08,230	11,59,08,230
East Indian	1949*	311	220,951	221,262	13	1,245	1,258	..	58,63,055	26,93,63,068	27,52,26,123	27,52,26,123
	1950	293	208,972	209,265	9	1,130	1,139	..	71,57,616	26,85,45,539	27,57,03,155	27,57,03,155
Eastern Punjab	1949*	83	45,791	45,874	1	46	47	..	16,23,070	4,79,10,873	4,95,33,943	4,95,33,943
	1950	84	46,842	46,926	..	..	..	..	17,34,773	5,92,48,652	6,09,83,425	6,09,83,425
Great Indian Peninsula.	1949*	231	162,782	163,013	..	..	..	2	52,70,833	16,43,60,328	16,96,31,161	16,97,04,975
	1950	209	144,234	144,443	..	..	..	1	45,70,895	15,24,56,930	15,70,27,825	15,70,71,480
Jodhpur	1949	33	6,422	6,455	..	..	..	..	3,92,923	79,39,895	83,32,818	83,32,818
	1950	33	7,024	7,057	..	..	..	..	3,28,221	61,72,001	65,00,222	65,00,222
Madras and Southern Mahratta.	1949	147	73,918	74,065	..	..	..	..	27,77,973	8,64,97,198	8,92,75,171	8,92,75,171
	1950	154	71,295	71,449	..	..	..	..	23,38,155	8,35,33,744	8,58,71,899	8,58,71,899
Mysore State	1949	52	9,778	9,830	..	..	..	..	2,37,640	64,59,847	66,97,487	66,97,487
	1950	54	9,918	9,972	..	..	..	..	2,67,386	68,26,205	70,93,591	70,93,591
Nizam's State	1949	78	19,213	19,291	4	305	309	..	11,85,367	2,08,53,211	2,20,38,578	2,20,38,578
	1950	90	21,664	21,754	3	188	191	..	13,24,853	2,20,76,864	2,34,01,717	2,34,01,717
Oudh Tirhut	1949*	152	54,370	54,522	..	..	..	..	16,60,670	6,23,35,112	6,39,95,782	6,39,95,782
	1950	146	50,664	50,810	..	..	..	..	21,78,227	5,77,03,038	5,98,81,265	5,98,81,265
South Indian	1949*	145	55,764	55,909	..	..	..	..	22,02,825	6,38,48,995	6,60,51,820	6,60,51,820
	1950	142	57,115	57,257	..	..	..	..	21,76,079	6,91,79,682	7,13,55,761	7,13,55,761
Railway Clearing Accounts Office.	1949	3	1,962	1,965	..	..	..	1	75,498	34,53,718	35,29,216	35,76,979
	1950	4	2,101	2,105	..	..	..	1	68,247	37,40,525	38,08,772	38,64,871
TOTAL	1949	1,768	884,351	886,119	18	1,620	1,638	4	3,00,00,358	1,01,94,53,910	1,04,94,54,268	1,04,96,06,751
	1950	1,717	857,651	859,368	12	1,548	1,560	2	3,06,19,236	1,01,57,28,796	1,04,63,48,032	1,04,64,47,786

* Represents revised figures for 1948-9 due to changes made by the railway administrations in the figures published last year.

† The figures of cost of all Railways represent pay, allowances, passages, provident fund contribution and gratuity and the value of grain shop concessions in the case of Indian Government Railways.

A comparison of the figures for 1949-50 with those for the previous year shows that the total number of staff employed on the open line of Indian Government Railways decreased by 30,176 during the year, while the number of construction staff increased by 40.

The total cost of staff including that of staff on loan from the Indian Audit and Accounts Service decreased by Rs. 31,09,885 during the year as compared with the previous year.

121. Direct Recruitment to the Superior Railway Services.—Thirty-four appointments were made to the Superior Railway Services by direct recruitment during the year. The details of the appointments by departments are given below:

Department	*No.*
(1) Engineering	13
(2) Accounts	—
(3) Establishment	1
(4) Transportation, Traffic and Commercial	4
(5) Transportation (Power) and Mechanical Engineering	13
(6) Other departments	3
TOTAL	34

122. Promotions to Superior Railway Service.—Three promotions were made during the year from Class II and Class III services. These promotions were in respect of the vacancies earmarked for, and which, could not be filled during the year 1947-8.

123. Confirmation of Temporary Staff.—In May 1942 orders were issued by the Railway Board to the effect that permanent vacancies in non-gazetted ranks open to direct recruitment occurring on and after 1 June 1942 should, until further orders, be filled in a temporary capacity only, so that these vacancies might remain available for persons with War service. It was laid down in the same orders that persons so appointed against permanent or provisionally permanent vacancies should be treated in the same way as permanent staff in respect of eligibility to subscribe to provident fund, educational assistance and notice of termination of service. Thus the existing staff on the Railways were divided into the following three catègories:—

(A) Permanent railway servants;

(B) Railway servants appointed against permanent posts in a temporary capacity and given certain benefits permissible normally for permanent employees only; and

(C) Purely temporary employees.

In October 1943, orders were issued laying down that 70 per cent of the permanent vacancies occurring between June 1942 and a relevant date to be determined after the war would be reserved for the permanent absorption of *ex*-servicemen and the remaining 30 per cent would be available to category B personnel. This relevant date was in due course fixed as 31 December 1945, and Railways were authorized towards the end of 1945 to confirm category B personnel to the extent of the vacancies, *viz*., 30 per cent available for them. Confirmations were also permitted against permanent vacancies occurring on or after 1 January 1946. At the same time the recruitment of War Service candidates against the vacancies reserved for them began.

After the cessation of hostilities Railway Administrations began to discharge surplus staff as it was not possible to keep men for whom there was no work. The whole retrenchment policy was discussed with the All-India Railwaymen's Federation in June 1946. Their contention was that the appointment of an Adjudicator in connection with the hours of work, leave reserve, etc., would result in an increase in the permanent cadres and that in view of this any employee who was in service on 15 September 1945, *i.e.*, when the war in the East ended, should not be discharged on becoming surplus unless he refused alternative employment. The Railway Board agreed to this proposal and orders were accordingly issued to the Railway Administrations in June 1946.

Soon after partition the question of providing permanent appointments for the India-opting staff of Railways falling within Pakistan territory confronted the Railway authorities and circumstances compelled the Railway Board to issue orders banning the confirmation of staff in Class III and Class IV services in order to provide for the absorption of surplus permanent staff from the old Bengal Assam and North Western Railways. Subsequently, pre-partition permanent vacancies were, however, excluded from the scope of the ban.

As a result of a meeting between the All-India Railwaymen's Federation and the Railway Board held in November 1947, the Railway Board, with a view to remedying the position whereunder staff were kept on a temporary basis for protracted periods, agreed that temporary posts should, where justification existed, be converted into permanent posts. The Railway Administrations were accordingly asked that a review of all temporary posts with a view to seeing whether justification existed for their permanent retention should be completed expeditiously and the results implemented. They were also given power to convert the temporary into permanent posts, where justified, with retrospective effect from 1 January 1947. In issuing these instructions, the Railway Board also lifted the ban on the confirmation of staff against post-Partition vacancies imposed soon after Partition and instructed Railways that all the converted posts as well as the residue of the 70 per cent pre-1946 vacancies left over after the absorption of the War Service candidates should be filled permanently.

The urgency of the problem was impressed upon the Railway Administrations and with a view to ensuring that every effort was being made by them to expedite the conversion of temporary into permanent posts, wherever justifiable, and the confirmation of temporary staff against all available permanent vacancies, the Railway Administrations were asked to submit periodical progress reports to the Railway Board.

In spite of difficulties, such as having to job-analyse the work of the staff in order to determine the need or otherwise of the retention of temporary posts as a permanent measure, as well as having to prepare combined seniority lists of staff opted for India with the existing staff of each railway, a total number of approximately 72,820 posts have, up to the end of March 1950, been converted into permanent and a total number of 137,386 temporary staff confirmed since 1 June 1948. Of the remaining 210,157 temporary staff, 91,924 were not eligible for confirmation on 31 March 1950 being workshop staff who had not completed three years' service and staff still on probation or under training, as well as staff whose posts were not likely to be required permanently. There was thus a balance of 118,233 to be still confirmed.

124. **Disposal of surplus staff.**—In view of the difficult ways and means position of the Government, the Railway Board had to review the budgeted expenditure under capital and revenue grants towards the end of 1949 and apply a $7\frac{1}{2}$ per cent cut to the demand relating to the expenditure on administration. Consequently, Railway Administrations were permitted to undertake retrenchment of staff within very narrow limits. It was emphasized that retrenchment of staff was to be resorted to only where other avenues of economy could not produce the necessary results and after every effort to absorb the surplus staff in alternative posts, even after giving special training where necessary had been made. In December 1949, instructions were issued to Railways to stop almost all recruitment from outside so that the staff rendered surplus could be absorbed to the maximum possible extent on the parent railway as well as on the adjacent railways. They were also required to evolve a suitable procedure to ensure complete co-ordination in this respect. Staff recruited prior to 15 September 1945 were not to be discharged in any case.

The retrenchment, where unavoidable, was to be based on the simple rule of length of service within each appropriate unit, so that the employees with the shortest service would be discharged first, subject to such adjustments as might be necessary in the case of scheduled caste employees in categories where their recruitment had fallen short of the prescribed

percentage. Waiting lists of discharged employees were also required to be maintained so that they might be reabsorbed in future vacancies in the order of their length of service prior to discharge, subject to adjustments in the case of scheduled caste staff.

To ensure that the Board's instructions were being properly complied with and also to gauge the extent of retrenchment, Railway Administrations were required to submit periodical statements showing the number of staff retrenched and reabsorbed. It was found from these statements that the retrenchment was mostly confined to staff with short service.

125. Railways and Labour.—The relations between the Railway Administrations and labour continued to be generally cordial during the year.

(1) *All-India Railwaymen's Federation.*—The resolutions passed at the meetings of the Working Committee of the Federation at Dinapore on the 6-7 June 1949, at New Delhi on 21 and 23 November 1949, and the meeting of the General Council at Lucknow on 2 and 3 February, were examined in detail and the Federation advised of the results.

In response to a request made by Shri Jayaprakash Narayan, President of the All-India Railwaymen's Federation, the Hon'ble Minister for Transport and Railways met him and certain members of the Working Committee of the Federation on 22 and 23 November 1949. The following items were some of the more important subjects discussed at the meeting:

(*a*) weightage for service for purposes of fixation of initial pay in the prescribed scales ;

(*b*) recommendations of the Central Pay Commission regarding leave rules ;

(*c*) conversion of temporary posts into permanent and confirmation of staff ;

(*d*) Voluntary Savings Scheme for railway staff ;

(*e*) pass rules ; and

(*f*) review of the grant of Dearness Allowance to railway staff.

A meeting between the Hon'ble Minister of Transport and Railways and the representatives of the Federation was held at New Delhi on 23 March 1950 to discuss the question of application of the Prescribed scales of pay and the Central Government rates of dearness and other allowances to the employees of the Indian States Railways. It was decided that these would be applicable from the date on which the Railways would be taken over by the Central Government, *i.e.*, 1 April 1950.

(2) *Indian National Railway Workers' Federation.*—In December 1949, Government agreed to extend to the Indian National Railway Workers' Federation, the same facilities as are given to the representatives of the All-India Railwaymen's Federation.

At a meeting between the Hon'ble Minister of State for Railways and the representatives of the Indian National Railway Workers' Federation held at New Delhi on 19 December 1949, the question of the *ex*-staff of the Accounts Department on certain Railways being exempted from passing the departmental examination and certain other matters were discussed.

126. Grainshops.—The main recommendations of the Railway Grainshops Enquiry Committee and decisions of the Government of India thereon have been summarized in para. 121 of the last report. Further decisions, taken during the year under review, are as follows:

(1) In para. 94 of their Report, the Railway Grainshops Enquiry Committee had remarked that there was no justification for including dependents for the purpose of grainshop concessions particularly those, who were not covered by the Pass Rules. This observation of the Committee was examined by the Government of India during the period under review and it was decided to adopt the following definition of the term 'dependent' for the purposes of grainshop concessions, as it was felt that under the

joint-family conditions prevailing in the country the wage earner had to feed several of his close relatives, who might not be eligible for free passes or P. T. Os:

Dependents.—Dependents are relatives of the employee other than those covered by the term 'family', who live with, and are wholly dependent upon him, *i.e.*, who have no source of income of their own. Only the following relations of the employee will be admitted as dependents, if otherwise eligible.

(1) Father or step-father.

(2) Mother or step-mother, provided the father, if alive, is also a dependent.

(3) Unmarried and widowed sisters, brothers or step-brothers under 18 years of age, provided father, if alive, is also a dependent.

NOTE.—The number of dependents will be limited to three only.

(2) Following the reintroduction of sugar as a rationed article to be supplied from ration shops in certain rationed areas, the Railway Board issued instructions to railways to the effect that sugar should be sold through railway grainshops purely as a temporary measure on the same scale and rate as in civil ration shops and for so long as sugar was distributed as a rationed article.

Under the revised grainshop scheme accepted by the Government of India on the recommendations of the Railway Grainshops Enquiry Committee and which was introduced on all Railways from 1 January 1949, the number of grainshops decreased from 589 to 388. The number of staff, who purchased foods, etc., at these shops decreased from 613,000 to 531,000, of whom 273,000 purchased at concessional rates, while 258,000 purchased from the railway grainshops at controlled rates.

The statistics given below indicate the principal activities of the grainshop organization:—

No. of shops functioning—	March 1950
Static	314
Mobile	74
TOTAL	388
No. of staff served at the shops—	March 1950
At concessional rates	273,000
At controlled rates	258,000
TOTAL	531,000
Principal articles sold during the year—	(in maunds)
(a) Cereals	69,08,000
(b) Pulses	9,83,000
(c) All cooking oils	4,41,000
	Rs.
Cost of purchases of all grainshop articles during the year	15,65,43,000
Total amount realized on sales	8,36,36,000
Loss during the year—	
(a) Direct loss (on sales)	8,74,51,000
(b) Indirect loss (on staff, freight, etc.)	1,95,35,000
	March 1950
	Rs. A. P.
Average cost of purchases per employee	26 7 0
Expenditure incurred by Railways per employee—	
(a) On sales	25 6 0
(b) On all overheads	2 14 0
Average relief enjoyed per employee Zone—	March 1950
	Rs. A. P.
A	22 15 0
B	23 13 0
C	25 4 0
D	27 9 0

127. **Canteens.**—The number of canteens on Railways which served light refreshments to workers and in some cases also cooked meals, increased from 52 to 69 during the year. The number of staff who patronized these canteens similarly increased from an average of 53,000 per day to an average of 63,000 per day.

128. **Dearness allowance.**—The scales of dearness allowance admissible to railway staff, referred to in para. 123 of the last report, continued unchanged during 1949-50.

129. **Co-operative stores.**—It was mentioned in para. 121(9) of the last report that pending further investigation, the decision of the Government of India was deferred on the recommendation of the Railway Grainshops Enquiry Committee that the setting up of Co-operative Stores by Railway workers should be encouraged. This recommendation was examined during the year and accepted by the Government of India. Instructions were accordingly issued to Railway Administrations, in August 1949, asking them to encourage the starting and management of co-operative stores by railway workers and to invite the co-operation of recognized unions in promoting the formation of such stores. Railway Administrations were required to keep in mind, at the same time, that the initiative for the setting up of such co-operative stores should come from the staff. As regards the assistance to be rendered to such stores, it was decided that:—

(*a*) where convenient, suitable existing premises may be offered at a nominal rent to such stores, formed under the Co-operative Societies Act, but no new buildings should be constructed for the purpose ;

(*b*) the co-operative stores should conform to the regulations issued in this connection by the Provincial Registrar of Co-operative Societies, the stores being permitted to deal in any article included in the Provincial Regulations concerning Consumers' Societies ;

(*c*) a subsidy amounting to not more than half the administrative and establishment charges for the first three years might be paid by the Railway Administration subject to the condition that the Provincial Co-operative Department concerned certified that the Store was working properly ; and

(*d*) Railway Administrations would have no financial commitment save to the extent indicated in clauses (*a*) and (*c*) above.

130. **Railway Service Commissions.**—The recommendations of the Indian Railway Enquiry Committee regarding Railway Service Commission were considered, and it was decided to continue recruitment of Class III staff for all Indian Government Railways through these bodies. It was also found necessary to retain the existing number of four Commissions in order to have a separate Commission to serve the different areas. As identical prescribed scales had been introduced for the same classes of staff on different railways, it was considered desirable to maintain co-ordination of the working of the various commissions in order that the types and qualifications of candidates for identical classes on different railways should be more or less uniform. It was accordingly decided that the Chairman of one of the Commissions should exercise overall supervision of the working of the other Commissions. The Chairman of the Bombay Commission was entrusted with this duty. It was further decided that each Commission should consist of a Chairman and two members except the Bombay Commission which had an additional member to deputize for the Supervisory Chairman in his absence from the headquarters.

The system of the Service Commissions advising General Managers on appeals from Class III staff which lie to them was discontinued.

As a result of the economy campaign, there was general stoppage of recruitment by Railway Administrations. The four Railway Service Commissions were accordingly abolished early in 1950, and a Central

Railway Service Commission was set up with headquarters at Bombay on 1 March 1950. The functions of this Commission were to conduct recruitment of Class III staff for all Indian Government Railways, and to make recommendations regarding the equation of the existing non-gazetted posts and grades of Railways of the Indian States to be taken over from 1 April 1950, with the prescribed scales of pay on Indian Government Railways.

131. Anti-Corruption Organization.—The drive to combat bribery and corruption on Indian Railways was continued during the year more vigorously with the introduction of the scheme evolved by the Railway Board last year of setting up an Anti-Corruption Organization on each railway for the prevention, detection and departmental investigation of cases of corruption and for co-ordinating the activities of this organization with those of the Special Police Establishment. This separate organization is now functioning on seven out of the nine former Indian Government Railways. A close liaison is being maintained between the Railways' Anti-Corruption Organizations and the Special Police Establishment for effective prosecution of cases by the appropriate authority. For example, cases detected by the Railways' Anti-Corruption Organizations and deemed fit to be tried in a court of law, are handed over to the Special Police Establishment and cases detected by the Special Police Establishment which are considered fit to be dealt with departmentally are handed over to the Railways' Anti-Corruption Organization.

Apart from detecting cases of corruption and bribery on Railways by frequent surprise visits and checks by officers and inspecting staff of the Anti-Corruption Organization, preventive measures are also taken by removing as far as possible conditions conducive to corruption, such as for example, additional booking facilities, simplification of rules and regulations, and education of the public through publicity. The staff are also educated in their duty towards the public and the value of straightforward and honest dealings in an undertaking like the railways is impressed upon them and they are exhorted to desist from corrupt practices. Co-operation of the public with the railway staff is also canvassed in connection with the anti-corruption drive. At the same time disciplinary rules have been tightened and punishments, which will have deterrent effect, are being swiftly imposed on the staff who are found corrupt.

The Anti-Corruption Organizations on Railways having been established only during the course of the year, it is too early yet to furnish statistics about what has so far been achieved.

So far as the Special Police Establishment is concerned, 212 cases were taken up by them during the period 1 April 1949 to 31 December 1949. Of these, four cases were sent up for trial in courts or tribunals, and conviction of 36 persons was secured; 46 cases were referred to Railway Administrations for departmental action. This brings the total number of cases so far taken up by the Special Police Establishment to 1,130 resulting in the conviction of 330 persons.

132. Labour legislation.—No important legislation concerning railway labour was enacted during the year.

133. Staff Councils.—It was stated in the last report that Section 3 of the Industrial Disputes Act, 1947 and Part V of the Industrial Disputes Rules. 1947 provided for the constitution of Works Committees consisting of representatives of employers and workmen in industrial establishments but that the question whether Staff Councils and such other bodies functioning on Railways might be allowed to continue in their existing forms was under consideration and that no final decision was reached. This question was further examined during the year and was referred to the Joint Advisory Committee for Railways for their advice.

134. Provision of quarters for railway staff.—In accordance with the Railway Board's policy stated in paragraph 129 of last year's report, available resources were concentrated mainly on the construction of the lowest type of quarters, *viz.*, 'A' type for essential operating staff. 'B' type quarters were constructed only, if, in the opinion of the General Managers, the provision of such quarters was inescapable.

During the year, 7,893 'A' type and 1,185 'B' type quarters were constructed on the nine major Indian Railways, as shown in the statement below:—

Railway	*'A' type*	*'B' type*	*Total*
Assam	1,366	519	1,885
Bengal Nagpur	1,364	240	1,604
Bombay, Baroda and Central India	1,015	22	1,037
East Indian	588	65	653
Eastern Punjab	361	151	512
Great Indian Peninsula . . .	676	160	836
Madras and Southern Mahratta .	402	28	430
Oudh Tirhut	1,824	...	1,824
South Indian	297	...	297
TOTAL .	7,893	1,185	9,078

135. Progress in implementation of the Adjudicator's Award.—Railways have been trying to keep to the time table prescribed for the implementation of the Adjudicator's Award. With some exceptions, the first stage was completed in the various categories, but in view of the financial stringency and the difficult ways and means position of the Government, it was later on decided to examine the question of spreading the implementation of the Adjudicator's Award over a longer period, the Railways being asked in the meantime to slow down the pace of implementation both in respect of recruitment of staff and construction of quarters. Subsequently it was decided by the Government that the Award should be implemented by 31 December 1950 for Class IV staff and by 30 April 1951 for Class III staff, the Award as a whole being implemented within the three years for which it is binding. Railways were accordingly instructed to implement the Award in respect of Class IV staff in two phases ending respectively on 30 June 1950 and 30 November 1950 and in respect of Class III staff in three phases ending respectively on 31 July 1950, 30 November 1950 and 31 March 1951.

The total number of additional staff required to implement the Award was roughly estimated by Railways in 1948 as 100,000 men. As a result of job analysis carried out on Railways to assess the surplus staff, the number of additional staff required after taking into account the surplus staff that will have to be absorbed in the Award vacancies has decreased considerably and the present estimate works out to roughly 50,000 men (15,500 Class III and 34,500 Class IV).

The absorption of Indian nationals returning from Burma on grounds of alien nationality and displaced persons from Pakistan in vacancies arising out of the implementation of the Adjudicator's Award was progressing when there was a setback on account of the instructions issued to Railways to slow down the pace of implementation owing to the financial stringency. As Railways have since been asked to go ahead with the implementation of the Award, the absorption of these men has been resumed and it is expected, that when the Award is fully implemented, the ex-Burma Railways employees and the quota of displaced persons from Pakistan will have been absorbed on the Railways.

136. Progress in implementation of the Central Pay Commission's recommendations.—Orders were issued in August 1949 implementing the recommendations of the Central Pay Commission regarding Leave Rules. These orders were to take effect from 1 February 1949. The Leave Rules fixed the rate of earned leave at one-eleventh of the period spent on duty instead of one-fifteenth of total service under the State Railway Revised Leave Rules; and the leave salary for the first 60 days on leave on average pay at the average pay of the 12 preceding months instead of substantive pay as formerly. Temporary staff who have completed one year's service and skilled workmen are also eligible for leave in accordance with these rules. Orders were also issued entitling all temporary staff to subscribe to the State Railway Provident Fund after completion of one year's service, Government's

contribution being credited to their account with effect from the second year of service, on the date of their confirmation. With the issue of these orders, temporary staff with more than a year's service on Railways have been brought almost on a par with permanent staff in the matter of all major privileges.

In May 1949, a Committee called the Joint Advisory Committee consisting of four Labour representatives, four representatives of the Railway Board and an independent Chairman nominated by the Government was set up to look into, and recommend remedies for, the alleged anomalies in the application of the recommendations of the Central Pay Commission on the Railways. By March 1950, orders of Government thereon had been issued to Railways on the Committee's recommendations on the following subjects:

(i) Distribution of posts of clerks on Indian Government Railways
(ii) Prescribed scales of pay for keymen in the Engineering Department
(iii) Rate of travelling allowance for Class IV employees
(iv) Distribution of posts of typists
(v) Scale of pay applicable to graduate clerks
(vi) Distribution of posts of stenographers
(vii) Distribution of posts of Assistant Surgeons
(viii) Distribution of posts of station masters
(ix) Distribution of posts of train clerks and number takers.

Another matter regarding which orders were issued was the case of fixation of pay of staff under the formula recommended by the Pay Commission in accordance with which experience and length of service were not reflected sufficiently in the initial pay fixed. The Government, as an *ad hoc* measure of relief, issued instructions that in the cases where pay fixed was lower than that which would be reached by adding to the minimum of the prescribed scale, one increment for every 6 years of service in the corresponding scale, the initial pay shall be enhanced to that stage in the prescribed scale. The staff whose total service exceeded 25 years were also granted an additional increment. The acceptance of the recommendations of the Joint Advisory Committee regarding upgrading of posts and the weightage for service referred to above has resulted in substantial benefits being conferred on the staff during the period under review.

137. Training of Staff.—As already reported in paragraph 132 of the last report, instructions were issued to Railway Administrations to establish training schools where they did not exist so far as Class III staff were concerned. As regards the workshop and shed staff, the recommendations of the Indian Railway Enquiry Committee 1947 contained in paras. 78, 79 and 97 were considered and railways were instructed during the year that refresher courses should be devised for comparatively inexperienced men who had now to fill the role of Supervisors, that training facilities for the staff in the Mechanical Workshops should be improved and that to achieve this end, existing facilities for the training of Apprentices should be reviewed and reorganized on a sounder footing. Railways were also advised to provide separate facilities for elementary practical training in the use of simple implements and to encourage unskilled staff who were ambitious of bettering their prospects to make use of these facilities.

138. Activities of the Medical Department.—Consideration of the report on the reorganization and development of medical services on Indian Railways was still in progress during the year. The general question of the policy to be adopted in regard to medical arrangements on Railways in future was also engaging the attention of Government.

The activities of the Medical Department during the year continued to be well maintained. On many of the Railways the number of beds was increased, new dispensaries were opened and extensive alterations in operation theatres and other medical buildings were carried out.

New equipment, such as X-ray, ultra-violet ray apparatus, and microscopes, was installed in some of the hospitals on the Railways.

Sanitary conditions were improved on many Railways. Some additional filtration plants were installed.

Measures for the prevention of malaria were introduced such as spraying of station buildings and residential quarters with D.D.T. solutions, filling of pits, oiling of burrow pits, tanks and drains and removal of rank vegetation. This resulted in a substantial decline in the incidence of malaria. Preventive measures taken on many railways in the form of vaccination, inoculation, isolation, etc., helped to check effectively the threat of cholera, smallpox and plague, which were prevalent in an epidemic form in districts near certain sections of the railways.

On almost all railways, special attention was paid to medical examination of school children.

During fairs or festivals in areas served by the railways, extensive sanitary arrangements were made such as latrines, washing and bathing places, water taps, lights, supply of diarrhœa mixtures, etc.

A statistical statement summarizing the activities of the Medical Department and showing up to date equipment available on the Indian Railways is appended to this Report.

STATISTICS OF MEDICAL AND HEALTH SERVICES ON RAILWAYS, 1949-50

—		E.I.	B.N.	O.T.	G.I.P.	B.B.&C.I.	M.&S.M.	S.I.	E.P.	Assam†
1. No. of railway staff as on 31 March.		210,404	101,783	50 810	144,444	89,543	71,449	57 257	46,926	..
2. Cost of medical services	Rs.	25,81,000	14,41,275	7,73,000	16,38,320	11,06,401	8,50 880	8,09,672	6,93,374	..
3. Cost of medical services per head of staff per annum.	„	12·27	14·16	15·21	11·34	12·36	11·91	14·14	14·78	..
4. Cost of health services.	„	53,70,000	28,49,238	8,54,000	21,51,073	10,61,951	4,56 995	4,12,089	10,75,341	.
5. Cost of health services per head of staff per annum.	„	25·52	28·00	16·81	14·89	11·86	6·96	7·20	22 92	..
6. Number of—										
(i) Hospitals .		13	10	3	8	53	5	7	9	..
(ii) Dispensaries		73	52	18	35		36	24	12	..
(iii) Beds . .		640	244	151	268	228	217	207	167	..
7. Equipment—										
(a) Diagnostic Apparatus—										
(i) X-ray		11	4	3	6	5	3	2	2	..
(ii) Electro-Cardiogram.		..	..	1	..	..		..	1	..
(b) Electro-Med. & Physio Therapy										
(i) Diathermy		10	1	..	2	2	1	1	..	..
(ii) Shortwave			..	..	3	1	..	..	1	..
(iii) Infra Red		10	4	1	1	5	..	1	1	..
(iv) Pentostal .		2	..	1	1	..	..	1	1	..
(v) Ultra-Violet		13	1	3	7	5	1	1	1	..
(c) Massaging & Rebalili Apparatus.		..	..	.	..	.	..	..	..	..

† Figures not available.

139. Railway Schools.—The educational facilities provided by the Railways have their origin in the necessity felt by them to provide facilities for the education of the children of European employees who, in the earlier days, formed a considerable portion of the literate staff and many of whom were stationed at places where European schools were not available. Almost every large railway settlement had its European school from the earliest time; some railways also established boarding schools in the hills. Gradually the educational facilities were extended to Anglo-Indians and Domiciled Europeans.

Later on with increasing number of educated Indians in railway service the need was felt for providing educational facilities for the children of Indian employees in places where there were no local schools or

where the local schools contained only primary classes. On the analogy of the assistance to the European employees, educational facilities were extended to Indian employees also.

Railway schools follow the ordinary curricula prescribed in the various State Educational Codes for European and Indian Schools. The curricula of European schools make provision for a graded education, such as Junior Cambridge or (Cambridge) School Certificate examination or corresponding departmental examination at the conclusion of the middle and high school courses respectively. The Indian schools provide courses leading in some cases to the Matriculation or equivalent examinations. The school courses are governed by the requirements of the University authorities.

The general control of railway schools lies with General Managers who are assisted in some cases by committees composed of Heads of Departments. All schools (European and Indian) are recognized and inspected by officers of the appropriate Government Education Departments and most of them receive grants in aid from Local Governments, Administrations, etc., in accordance with the provision of their Educational Rules.

At present there are 135 educational institutions under the direct control of Railway Administrations as detailed below :

Railway	No. of Educational Institutions
Assam	5
Bombay, Baroda and Central India	24
Bengal Nagpur	34
East Indian	31
Great Indian Peninsula	8
Madras and Southern Mahratta	18
Oudh Tirhut	5
South Indian	7
Locomotive Manufacturing Workshop, Chittaranjan	3
TOTAL	135

140. Territorial Army.—With the achievement of Independence, the Railway Regiments of the Auxiliary Force (India) composed exclusively of Europeans and Anglo-Indians, were disbanded. Steps have now been taken to raise in their place Territorial Army Railway Units with technical staff, who would be available for service in an emergency. The Territorial Army consists entirely of volunteers and the response from amongst the officers and staff of Railways where such units have been raised has been most encouraging.

141. Compulsory Savings Scheme.—To tide over the difficult ways and means position, Government found it necessary to introduce with effect from the pay for duty performed after 31 October 1949, a scheme of Compulsory Savings in the form of subscriptions to Provident Funds up to the end of February 1952. The Compulsory Savings Scheme as such did not apply to railway servants in receipt of pay of Rs. 250 per month or below, but a voluntary offer of goodwill was received from the All-India Railwaymen's Federation, commending a scheme whereby every railway servant on pay of Rs. 250 per month and below, was required compulsorily to subscribe at least Re. 1 per month to help in the national savings. With this end in view, Government instituted a new Fund known as Savings Provident Fund (Railways), the main provisions of which are generally the same as those of the State Railway Provident Fund with the exception that the amount becomes payable on 1 April 1952.

CHAPTER VIII

AMENITIES FOR PASSENGERS

142. General.—Provision of amenities for the comfort and safe travel by trains of passengers has been receiving the careful and constant attention of railways. Certain improvements in amenities provided during the year on the principal railways are referred to in the following paragraphs.

143. New Class III carriages.—The new class III carriages conforming to the approved standard design of 1939 constructed in railway workshops and placed in service during the year totalled 202 against 190 during 1948-9. Besides these, 61 class III carriages of all steel interim design were constructed at the Hindustan Aircraft Ltd., Bangalore, and put into service.

144. Booking Offices and out-agencies.—Additional booking facilities for the greater convenience of the travelling public were provided at different stations as indicated below.

Bengal Nagpur Railway.—Additional booking offices were provided at Jaipur Road and Burnpur. Additional ticket booking counters were opened as 10 stations for the convenience of long distance (journeys beyond 300 miles) passengers.

Bombay, Baroda and Central India Railway.—There was no occasion to open new booking offices in connection with fairs and festivals. An out-agency, however, was opened at Delhi (Qazi Hauz) with effect from 15 April 1949 to deal with passenger traffic, parcels and goods traffic in smalls.

East Indian Railway.—As many as eighteen booking windows were opened at different stations on this railway for the convenience of passengers. Arrangements have also been made to keep all booking offices open at least one hour before a train is due to arrive, and, even longer where the traffic justified it. Six stations, *viz.*, Nabadwip Dham, Rae-Bareli, Unnao, Hardoi and Hardwar, have been opened for continuous booking.

Eastern Punjab Railway.—Sub-offices of the main city-booking agencies, opened at Jullundur, Ludhiana and Patiala, appear to have been greatly appreciated by the public. In order to provide for the convenience of pilgrims during Kumbh Mela at Hardwar, temporary sub-booking agencies for issue of Class III tickets only were provided in Delhi and New Delhi, during the period 10 March to 17 April 1950.

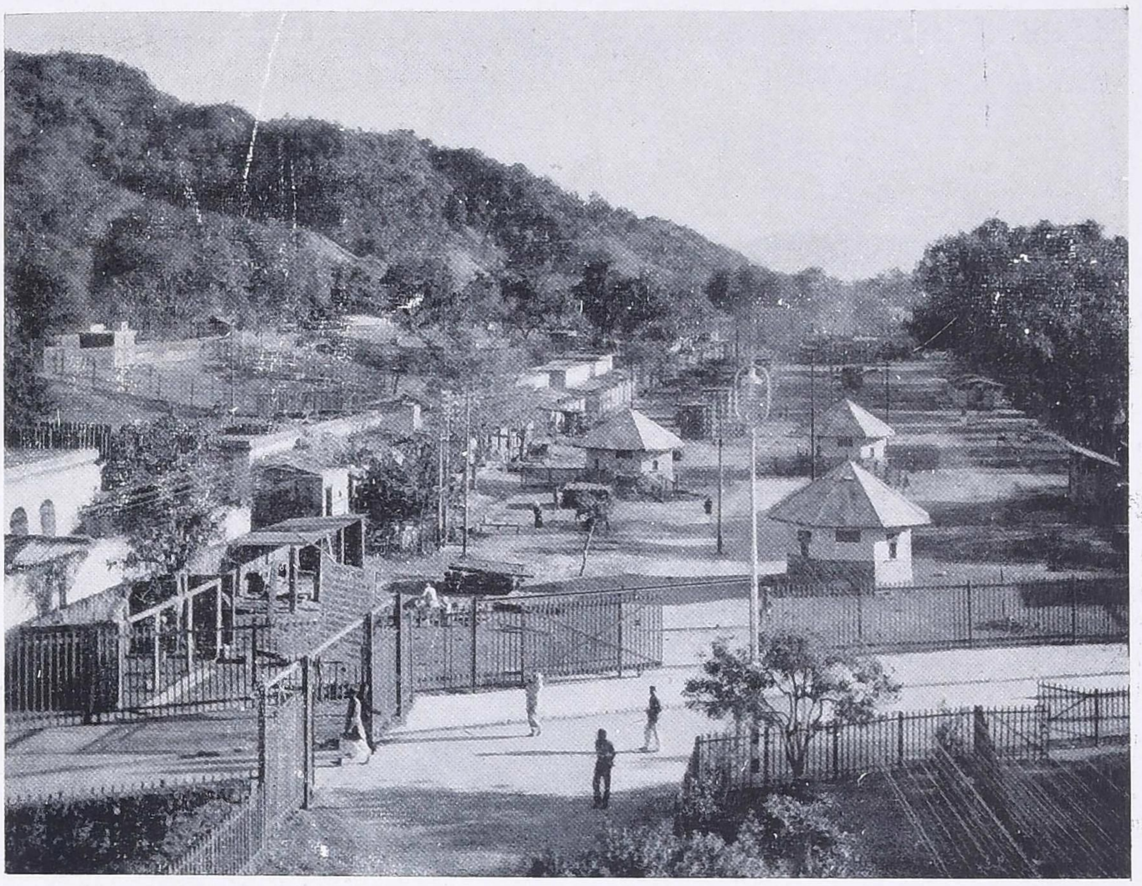
Great Indian Peninsula Railway.—Two city booking offices were opened during the year, one at Sholapur and the other at Jubbulpore for local and through booking. Facilities for booking of Class II and III passengers travelling over 300 miles, one day in advance of the date of journey, have been introduced on 13 important stations on this railway.

South Indian Railway.—Four new out-agencies and a new town booking office at Dindigul were opened during the year.

Oudh Tirhut Railway.—City booking offices were opened at Lucknow (Aminabad, Chowk and Hazarat Ganj) from 1 November 1949 for booking of passengers only. Moreover, the out-agencies at Almora, Naini Tal, Ranikhet and Bhowali remained open for goods and parcels traffic to meet the requirements of the growing markets of Kumaon Hills. The management of the Naini Tal out-agency was entrusted to the Kumaon Roadways on and from 1 June 1948 consequent upon a decision of the U. P. Transport Commissioner to take over the Kathgodam-Naini Tal routes.

Saurashtra Railway.—City booking offices were opened at Bhuj, Anjar and Bhachau on the Cutch Railway. Certain important changes at Rajkot and Bhavnagar were also made for improving the facilities to passengers.

145. Waiting rooms and waiting halls.—During the year a number of waiting rooms and waiting halls were constructed, besides effecting improvements to the existing station accommodation for passengers at a number of stations.



BIRD'S EYE VIEW OF APPROACH TO HARDWAR STATION

HARDWAR MAIN PLATFORM—NEWLY CONSTRUCTED SHED

Bengal Nagpur Railway.—Seventeen waiting halls have been provided during the year at different stations. In addition to these, improvements to twelve Class III waiting halls were carried out.

East Indian Railway.—New waiting rooms were provided at Gajroula, Chunar, Neorar, Mohammadganj, Haidarnagar and Sirari. Combined waiting rooms for Class I and II passengers were built at Rupnarainpur, Japla, Haripal and Bolpur.

Ladies' waiting rooms were constructed at Bolpur and Rupnaraianpur.

Eastern Punjab Railway.—In waiting halls and platforms at various stations as many as 398 benches were provided.

Madras and Southern Mahratta Railway.—A new First and Second class waiting room was provided at Munirabad. At Gummidipundi the station building was extended to provide an additional waiting hall. At Sisvinhalli Halt, the waiting hall was extended to provide more space. At Belgaum a dressing room attached to the Ladies' waiting room was provided. At five stations on the broad gauge and four stations on the metre gauge, 33 additional benches for Class III waiting halls were provided during the year.

South Indian Railway.—A new upper class waiting room was added at Madras Egmore station. Two retiring rooms were converted into an upper class waiting room. At Mettupalaiyam, a second class refreshment room was converted into an upper class waiting room for gents. Important improvements at 23 stations, such as provision of Mosaic tiles flooring, *dado* to walls, better baths and toilet facilities, better ventilation, etc., have been made.

Assam Railway.—Waiting rooms and halls for Third class passengers were completed at Charali, Naharkatiya and Namrup stations.

Oudh Tirhut Railway.—At Mau junction, Sarnath, Ballia, Indara, Nampara, Burhwal, Gonda, Bettiah, and Muzaffarpur 13 additional waiting rooms were constructed, equipped and furnished at specified standards for the use of mostly upper class ladies and gents.

146. Additional platforms and sheds.—The work on improvements to, or extensions of, existing platforms, and provision of covering over the platforms was continued and good progress was made during the year.

Assam Railway.—The work on raising the level of the platforms at Chaparmukh, Mariani, Simalaguri, Pandu, Rangiya, Barpeta Road and Badarpur stations was in progress. Surfacing of the platforms at Dibrugarh station and the work of providing covered sheds over passenger platforms at Katihar was also taken in hand.

Bengal Nagpur Railway.—Improvised passenger platform covers were provided at 44 stations. Platform surface at 20 stations was improved by tarring. Rail level platforms were raised to low level, *i.e.*, 1′-6″ above rail level, at 11 stations.

Bombay, Baroda and Central India Railway.—Platforms at two stations were extended and the existing platforms at six stations were raised. Improved surface was provided to passenger platforms at two stations. Sheds of 80′ × 25′ size were constructed on the up and down platforms at Kosamba station and waiting halls were extended at Surat and Kosamba.

East Indian Railway.—High level platforms were provided at Monirampur, Chandanpur and Nasibpur and the existing high level platform at Dakhineswar was extended. The existing covering at Hardwar main platform was extended and a covered platform was provided at Sakrigali Ghat.

Eastern Punjab Railway.—At Dasuya, Mukerian and Sabzimandi, the existing rail level platforms were converted to low level. A low level platform was provided at Mansurpur and Tanda Urmar. At two stations, covered platforms were also provided during the year.

Great Indian Peninsula Railway.—Platform covers were completed at King's Circle, Chalisgaon and Ahmednagar. The total roof area covered was 37,250 sq. ft. Construction of covering over platforms was in progress at six more stations, which when completed will cover an area of 54,904 sq. ft.

Surfacing of platforms was improved at 12 major and seven small stations. At three of these stations the platforms were raised from medium to high level. Further improvements to platforms were in progress at eight major and five small stations.

Madras and Southern Mahratta Railway.—At Ranipet the existing passenger platform was raised from 9″ to 1′-6″ above rail level. Additional rail level platforms were provided at 12 stations and second rail level island platforms at eight stations on the North East line during the year. Raised platform was provided in lieu of rail level platform at two stations.

Oudh Tirhut Railway.—The passenger platform at Burhwal was re-built and extended. A 750 ft. long shelter was provided over the main platform at Gorakhpur. Provision of shelters on the passenger platforms at Muzaffarpore and Kathgodam is in hand.

South Indian Railway.—The level of the platforms at ten stations on the broad gauge was raised to 1′-6″ above rail level. The platforms at five stations on the metre gauge and three on the broad gauge were provided with cement concrete surfacing. The platforms at three stations on the metre gauge and two on the broad gauge were extended.

147. Electrification of stations.—The work on provision of electric lighting of passenger platforms, station buildings, waiting sheds, approach roads, circulating areas, etc., made good progress during the year. In all, 63 stations were electrified during the year on Indian Government Railways as detailed below:—

Railway.	No. of stations.
B., B. & C. I.	2*
E. P.	8
E. I.	6
Assam	2†
M. & S. M.	8
B. N.	6‡
G. I. P.	18
S. I.	13

In addition, at a number of stations which are already electrified, lighting was improved and ceiling fans were provided in Class III waiting halls and, wherever possible, on covered portions of passenger platforms. On the E. P. Railway, water coolers were provided at 12 stations.

148. Catering arrangements.—In order to rehabilitate the largest possible number of displaced persons and to reduce monopoly contracts which had led in some cases to subletting, it was decided, during the year, to allot all contracts for small stations to local professional men including suitable displaced persons settled in the area. The scope for increasing the number of vendors' stalls at stations without leading to congestion on platforms was also examined, the object being to allot additional stalls to displaced persons only, not more than one contract being allotted to each. These measures resulted in the rehabilitation of a fairly large number of displaced persons.

The food situation remained sufficiently acute to necessitate the continuance of austerity measures, but every effort was made to supply food of good quality at reasonable rates.

* Includes one station reported to be in progress.

† Both these stations were reported to be in progress.

‡ Includes four stations for which electric supply is under negotiation.

149. Supply of drinking water.—Appropriate action was taken by Railway Administrations to ensure an adequate supply of drinking water to passengers in all seasons of the year. Where necessary and possible, railways continued the hot weather arrangement of stationing some twenty watermen at selected stations on important routes for the supply of water to passengers in their compartments. Water coolers were installed at a few important stations for the sale of ice-cool water on no-loss-no-profit basis of one pice per tumbler.

150. Steps taken to alleviate overcrowding in trains.—Conditions of over-crowding in trains continued to persist during the year, the principal factors being the accumulated arrears of replacement consequent on excessive wear and tear during the war-time and the restricted coach building capacity of railway workshops and the indigenous industry. The bottleneck has been the production of underframes on which coaches are built.

Subject to these limitations, such measures as could be taken to increase and strengthen passenger accommodation on trains were put into effect. During 1949-50, 619 additional coaches in terms of four-wheelers were built and placed on line for service.

In this connection attention is invited to paragraph 40 regarding 'Restoration of passenger train services'. Fast trains for Class III passengers only, called *Janata* Expresses were introduced on some of the railways, *viz.*, the B. N., E. P., B., B. & C. I., O. T. and S. I. Railways. The *Janata* Express between Howrah and Puri has limited accommodation for Inter class passengers. The *Janata* Expresses between Patna and Delhi on the E. I. Railway, introduced during the previous year, were extended to run between Howrah and Delhi.

Provision of a separate Class III bogie on all important Mail and Express trains for long distance passengers, and the appointment of Special Travelling Ticket Examiners in those carriages with a view to preventing short distance passengers from entering was also instrumental in reducing overcrowding in trains.

CHAPTER IX

ACCIDENTS

151. Major accidents.—The details of the major accidents which occurred during the year are summarized in the following paragraphs :—

On 10 April 1949, the engine and all the coaches except the one immediately behind the engine of 18 Down Punjab Express were derailed between Shiupur and Benares Cantt. stations on the Faizabad Loop of the East Indian Railway. Three of the coaches capsized, one of them having been completely wrecked. Ten persons were killed and 48 injured. The approximate cost of damage to rolling-stock and permanent way was Rs. 90,000. The derailment was caused by the track having been tampered with by some unknown persons.

On 14 June 1949, while S.104 Down Local was running from Dainhat to Agradwip on the Katwa-Howrah Section of the East Indian Railway, its engine and three leading coaches were derailed. One person was killed and 17 were injured. The approximate cost of damage to rolling-stock and permanent way was Rs. 39,000. The derailment was caused by the track having been tampered with by some unknown persons.

On 12 October 1949, while 2 Up Bombay Mail was running between Kalaikundah and Surdiah stations on the Khargpur-Chakardharpore Section of the Bengal Nagpur Railway, its engine and seven coaches behind it were derailed. Five persons were killed and 32 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 85,800. The derailment was caused by the track having been tampered with by some unknown persons.

On 29 January 1950, while D Down Goods was leaving Sirhind station on the Ambala-Ludhiana Section of the Eastern Punjab Railway, four wagons next to the engine suddenly derailed in the diamond crossing at the east end of the yard and fouled the Up Main Line. 27 Up Kashmir Mail was approaching the station almost simultaneously and collided with the derailed wagons. 69 persons were killed and 81 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 1,22,000. The derailment of the wagons was caused by a brake block, which had fallen from a wagon, getting wedged in the diamond crossing. The interval between the derailment and the arrival of the Kashmir Mail was so short that it was not possible for the ill-fated train to be stopped in time to avert collision with the wagons.

On 2 February 1950, 4 Down Kanpur-Katihar Passenger was standing on the Loop Line of Munderwa station on the Gorakhpur-Gonda Section of the Oudh Tirhut Railway, and 1 Up Katihar-Lucknow Express entered the same line from the opposite direction and collided head on with 4 Down. Three persons were killed and 30 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 50,775. This collision was caused by the failure of the human element on the part of the station staff.

On 3 March 1950, while 1 Down Madras-Calcutta Mail was running between Tada and Sullurupeta stations on the Madras and Southern Mahratta Railway its engine and ten carriages derailed. Six persons were killed and 104 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 2,20,000. The derailment was caused by the track having been tampered with by some unknown persons.

152. Review of Accident Statistics.—The number of passengers, railway servants and other persons killed and injured in accidents on Indian Railways, exclusive of casualties in railway workshops, during 1949-50 as compared with the previous year, may be seen from the accompanying table.

NUMBER OF PERSONS INJURED IN ACCIDENTS ON INDIAN RAILWAYS DURING 1948-9 AND 1949-50

Classification	Killed		Injured	
	1948-9	**1949-50**	1948-9	**1949-50**
A.—Passengers.				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	88	**126**	363	**443**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	621	**478**	3,113	**2,980**
(*c*) In accidents on railway premises in which the movement of trains, vehicles etc., was not concerned.	1	**1**	14	**9**
TOTAL	710	**605**	3,490	**3,432**
B.—Railway servants.				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	27	**18**	252	**323**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	212	**195**	5,563	**5,479**
(*c*) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	28	**19**	15,008	**17,349**
TOTAL	267	**232**	20,823	**23,151**
C.—Other than passengers and railway servants.				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	102	**103**	161	**190**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	3,553	**3,349**	1,677	**1,593**
(*c*) In accidents on railway premises in which movement of trains, vehicles, etc., was not concerned.	28	**10**	54	**58**
TOTAL	3,683	**3,462**	1,892	**1,841**
GRAND TOTAL	4,660	**4,299**	26,205	**28,424**

Of the total of 4,299 persons killed, 3,462 or 81 per cent were other than passengers and railway servants and, of this number, 2,777 were trespassers and 333 were reported to be suicides. Altogether, 30 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

As compared with the previous year, the number of passengers killed and injured in accidents to trains, rolling-stock, permanent way, etc., increased by 38 and 80 respectively, due to heavy casualties in two major accidents, *viz.*, to the Kashmir Mail on the Eastern Punjab Railway on 29 January 1950 and to the Calcutta Mail on the Madras and Southern Mahratta Railway on 3 March 1950. The number of railway servants injured in accidents to trains, rolling-stock, permanent way, etc., increased by 71, due mainly to increase in the number injured in minor derailments on Class II Railways.

The increase of 2,341 in the number of railway servants injured in accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned, is accounted for by the larger number of those who sustained injuries while attending to stationary engines in sheds or while working on the line or sidings and from other miscellaneous causes.

The following statement shows the number of passengers killed and injured in train accidents only, *i.e.*, collisions, derailments, etc., during the last five years as compared with the number carried.

NUMBER OF PASSENGERS KILLED AND INJURED IN TRAIN ACCIDENTS, 1945-6 TO 1949-50*

Year	†Number of passengers carried (in millions)	Killed		Injured	
		Number	Per million passengers carried	‡Number	Per million passengers carried
1945-6	1,093	89	0·08	253	0·23
1946-7	1,139	93	0·08	340	0·29
1947-8	1,044	298	0·29	721	0·69
1948-9	§1,185	55	0·05	260	0·22
1949-50	**1,255**	**111**	**0·08**	**365**	**0·29**

* *See* Note at the end of this Chapter.
† Represents total number carried on all railways.
‡ Excludes train wrecking and attempted train wrecking.
§ Revised figures.

On Class I Railways, the number of railway servants killed and injured in accidents caused by the movement of trains and railway vehicles and exclusive of train accidents, decreased by 20 and 78 respectively. The main causes for these accidents are analysed in the following table :—

CLASSIFICATION OF ACCIDENTS TO RAILWAY SERVANTS

Cause	Killed		Injured	
	1948-9	**1949-50**	1948-9	**1949-50**
(1) Misadventure or accidental	176	**165**	5,093	**5,099**
(2) Want of caution or misconduct on the part of the injured person.	29	**19**	332	**269**
(3) Want of caution or breach of rules, etc., on the part of railway servants other than the person injured.	2	**3**	75	**58**
(4) Defective apparatus appliance, etc., or want of sufficient appliances, safeguards, etc.	..	..	4	..
TOTAL	207	**187**	5,504	**5,426**

In the following statement are analysed the accidents which occurred during the last two years grouped under certain principal heads. A statement showing the accidents in greater detail for each railway will be found in Appendix D of Volume II of this Report.

ACCIDENTS DURING 1948-9 AND 1949-50 CLASSIFIED UNDER PRINCIPAL HEADS

	1948-9	1949-50
(1) Derailments not involving passenger trains	8,177	**7,821**
(2) Running over cattle	4,509	**4,522**
(3) Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	4,672	**3,217**
(4) Accidents due to failure of coupling and drawgear	2,296	**2,491**
(5) Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	1,646	**1,554**
(6) Fires in trains at stations or bridges	529	**485**
(7) Accidents due to other rolling-stock failures	322	**350**
(8) Derailments of passenger trains	285	**277**
(9) Collision involving goods trains or goods vehicles	253	**187**
(10) Attempted train wrecking	169	**154**
(11) Accidents due to failure of axles	222	**147**

ACCIDENTS DURING 1948-9 AND 1949-50 CLASSIFIED UNDER PRINCIPAL HEADS—*contd.*

	1948-9	1949-50
(12) Running over obstructions (other than those included under 'Train wrecking', 'Attempted Train wrecking' and 'Trains running into road traffic at level crossings)	155	143
(13) Trains running into road traffic at level crossings . .	145	143
(14) Broken rails	162	107
(15) Landslips	126	104
(16) Flooding of permanent way	110	100
(17) Accidents due to failure of brake apparatus . . .	51	76
(18) Collisions between light engines	58	59
(19) Passenger trains running in the wrong direction through points but not derailed	72	58
(20) Collisions involving passenger trains	34	38
(21) Accidents due to failure of tyres and wheels . . .	89	26
(22) Train wrecking	31	20
(23) Failure of bridges, tunnels, etc.	...	3
(24) Miscellaneous	535	324
Total .	24,648	22,406

The total number of accidents shows a decrease of 2,242 or 9·2 per cent as compared with the previous year in spite of an increase in the total train miles of 7·5 per cent.

Derailments not involving passenger trains still account for the largest number of accidents, *i.e.*, 35 per cent of the total. The others are stated below:—

	Per cent
Running over cattle	20
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	14
Accidents due to failure of couplings and drawgear . .	11
Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	7
Fires in trains at stations or bridges	2
Accidents due to other rolling-stock failures . . .	2
Derailments of passenger trains	1
Collision involving goods train or goods vehicles . .	1

Accidents in railway workshops accounted for the death of 18 and injuries to 18,559 railway servants, or an increase of 9 in the former and 1,228 in the latter as compared with the previous year.

153. Appointment of Claims Commissioners.—In order to ensure prompt disposal of claims arising out of accidents to trains carrying passengers, with early relief to sufferers, an Act was passed in the Autumn Session of Parliament. The Act, which empowers the Central Government to appoint Claims Commissioners for the purpose, came into force from 31 January 1950. It is the duty of Claims Commissioners to enquire into, and determine expeditiously, the claims arising out of accidents to trains carrying passengers and to arrange interim relief where justified. Three such appointments were made during the year in connection with the accidents which occurred at Sirhind, Munderwa and Sullurupeta respectively.

NOTE.—Figures for 1946-7 and for previous year, where given, are *inclusive* of the Bengal Assam and North Western Railways. Figures for 1947-8 are *exclusive* of the Bengal Assam and North Western Railways but *inclusive* of Eastern Punjab and Assam Railways for the period 15 August 1947 to 31 March 1948 only, while those for 1948-9 and subsequent year are *inclusive* of Eastern Punjab and Assam Railways for the whole year.

APPENDIX A

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and Convention Resolutions of 1943 and 1949.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve ; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues ; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital ; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be

divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to Company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organization of the Stores Purchase Department of the Government of India."

Convention Resolution of 1943

The Legislative Assembly on 2 March 1943 passed the following resolution:—

"Whereas it has been found that the Convention, which was adopted under the Assembly Resolution, dated 20 September 1924, and which was intended to relieve the General Budget from violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State, has not achieved these objects, this Assembly recommends to the Governor General in Council, that:

(i) for the year 1942-3, a sum of Rs. 2,35,32 thousand shall be paid to general revenues over and above the current and arrear contribution due under the Convention,

(ii) from the 1 April 1943, so much of the Convention as provides for the contribution and allocation of surpluses to general revenues shall cease to be in force,

(iii) for the year 1943-4, the surplus on commercial lines shall be utilised to repay any outstanding loan from the depreciation fund and thereafter be divided 25 per cent to the railway reserve and 75 per cent to general revenues, the loss, if any, on strategic lines being recovered from General Revenues, and

(iv) for subsequent years and until a new convention is adopted by the Assembly, the allocation of the surplus on commercial lines between the railway reserve and general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic lines being recovered from general revenues."

Convention Resolution of 1949

The Constituent Assembly of India (Legislative) on 21 December 1949 passed the following resolution:—

"This Assembly, after considering the recommendations of the Committee appointed by it in April 1949 to review the Convention relating to the separation of railway from general finance which was adopted under the Assembly Resolution, dated 20 September 1924, and in supersession of that and all other previous resolutions on the subject, resolves:—

(1) that railway finance shall continue to remain separated from general finance;

(2) that the general tax-payer shall have the status of the sole shareholder in the railway undertaking;

(3) that on the capital invested out of general revenues in the railway undertaking as computed annually, general revenues shall receive only a fixed annual dividend;

(4) that for a period of five years, commencing from 1950-1, the annual dividend, shall be a sum calculated at the rate of 4 per cent on the capital invested provided that no dividend shall be payable on the capital invested out of general revenues in unremunerative strategic lines ;

(5) that a Committee of the House shall review the rate of dividend towards the end of the aforesaid period and suggest for the years following it any adjustment considered necessary, having regard to the revenue returns of the railway undertaking, the average borrowing rate of government and any other relevant factors ;

(6) that the existing railway reserve shall be renamed the Revenue Reserve Fund and utilised primarily for maintaining the agreed payments to general revenues and for making up any deficit in the working of the railways ;

(7) that a Development Fund shall be constituted for financing expenditure for the following purposes:—

(a) passenger amenities,

(b) labour welfare, and

(c) railway projects which are necessary, but unremunerative.

(8) that for meeting the cost of replacement and renewal of assets, the Depreciation Reserve Fund shall receive, for the next five years, a minimum contribution of Rs. 15 crores per annum chargeable to the working expenses of the undertaking ;

(9) that the railway surplus shall be available for distribution amongst the Revenue Reserve Fund, the Development Fund, and the Depreciation Reserve Fund to the extent the last named needs strengthening over and above the minimum annual contribution ;

(10) that a Standing Finance Committee for Railways and a Central Advisory Council for Railways shall be constituted in the manner laid down in the motion adopted by this House on 23 March 1949 ;

(11) that the annual estimates of railway expenditure shall be placed before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demands for grants for railways by the Assembly ; and

(12) that the Railway Budget shall be presented to the House, if possible, in advance of the general budget and separate days shall be allotted for its discussion and the Minister for Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the Railway Budget, including the appropriation to the Depreciation Reserve Fund, the Development Fund, and the Revenue Reserve Fund shall be placed before the House in the form of demands for grants. The form the budget shall take, the details it shall give, and the number of grants into which the total vote shall be divided, shall be drawn up by the Ministry of Railways in consultation with the Standing Finance Committee for Railways.

2. This Resolution shall come into force from 1 April 1950."

APPENDIX B

MINISTRY OF RAILWAYS

Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1950

The Hon'ble Shri N. Gopalaswami Ayyangar, Minister for Transport and Railways

The Hon'ble Shri K. Santhanam, Minister of State for Transport and Railways

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Railway Board

Shri K. C. Bakhle	Chief Commissioner of Railways
Shri A. K. Chanda	Financial Commissioner of Railways
Shri F. C. Badhwar	Member (Engineering)
Shri V. Nilakantan	Member (Staff)
Shri S. S. Vasist	Member (Transportation)
Shri G. Pande	Director, Civil Engineering
Shri P. N. Saxena	Director, Establishment
Shri N. C. Deb	Director, Finance (Budget)
Shri K. Sadagopan	Director, Finance (Expenditure)
Shri P. Morris	Director, Mechanical Engineering (*on leave*)
Shri A. A. Brown	Director, Traffic
Shri S. S. Ramasubban	Secretary
Shri G. Rama Rau	Deputy Secretary
Shri N. L. Das Gupta	Assistant Secretary
Shri D. C. Baijal	Joint Director, Civil Engineering (Temporary)
Shri M. E. Bartley	Joint Director, Establishment (Temporary)
Shri Y. P. Kulkarni	Joint Director, Establishment (Adjudication) (Temporary)
Shri K. L. Ghei	Joint Director, Finance (Temporary)
Shri P. K. Chakrabutty	Joint Director, Mechanical Engineering (Temporary)
Shri S. K. Guha	Joint Director, Traffic (General) (Temporary)
Shri Ranjit Singh	Joint Director, Traffic (Temporary)
Shri L. A. Natesan	Economic Adviser (Temporary)
Shri R. Srinivasan	Deputy Director, Establishment
Shri Haveli Ram	Deputy Director, Finance (Budget) I
Shri M. L. Mukherjee	Deputy Director, Finance (Budget) II (Temporary)
Shri K. S. Bhandari	Deputy Director, Finance (Establishment)
Shri K. S. A. Padmanabhan	Deputy Director, Finance (Expenditure) (Temporary)
Shri B. Bhattacharyya	Deputy Director, Finance (General) (Temporary)
Shri P. Bhattacharji	Deputy Director, Mechanical Engineering
Shri B. R. Nanda	Deputy Director, Public Relations and Publicity
Shri M. K. Krishnamachari	Deputy Director, Statistics (Temporary)
Shri L. N. Mathur	Deputy Director, Telecommunications (Temporary)
Shri Rajendra Dev	Deputy Director, Traffic (Transportation) (Temporary) (*On leave*)
Shri S. L. Jaini	Assistant Director, Establishment (Temporary)
Shri A. Hildreth	Assistant Director, Stores (Temporary)
Shri Surjan Singh	Assistant Director, Traffic (Commercial) (Temporary).

Attached Officers

Shri B. B. Mathur . .	Officer on Special Duty (Regrouping) (Temporary)
Shri Sidney Smith . .	Officer on Special Duty (Rules) (Temporary)
Shri R. M. Sinha . . .	Officer on Special Duty(Rules) (Temporary)
Shri P. C. Basu . . .	Officer on Special Duty (Workshops).

Central Standards Office for Railways

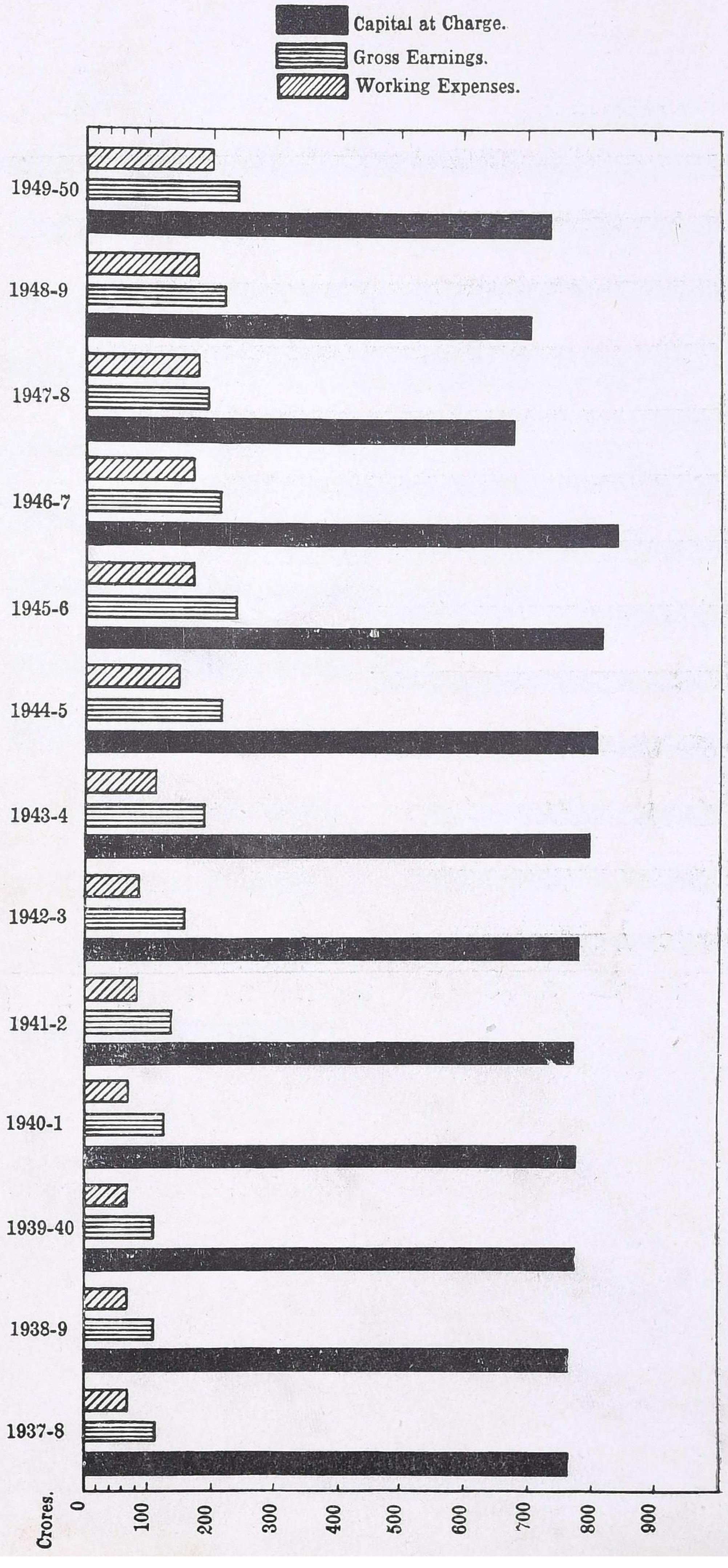
Shri D. Narayanaswamy Chetty	Deputy Chief Controller of Standardisation-in-charge
Shri B. S. Sindhu . .	Deputy Chief Controller of Standardisation (C & W)
Shri V. Venkataramayya .	Deputy Chief Controller of Standardisation (Civil)
Shri Walter Frey . .	Assistant Chief Controller of Standardisation (Structures)
Shri S. R. Woodmore . .	Assistant Chief Controller of Standardisation (Specifications & Records)
Shri M. V. Kamlani . .	Assistant Chief Controller of Standardisation (Designs)
Shri Dutt Kumar . .	Assistant Chief Controller of Standardisation (Carriage)
Shri A. Freitas . . .	Assistant Chief Controller of Standardisation (Loco and Carriage)
Shri A. K. Gupta . .	Assistant Chief Controller of Standardisation (Civil)
Shri R. H. G. da Cunha da Costa	Officer on Special Duty
Shri R. L. Vohra . . .	Research Officer (Mechanical)
Shri R. G. Bhatawadekar .	Research Officer (Metallurgical and Chemical)
Shri Kurt Voge . . .	Research Officer (Soil Mechanics)
Shri M. S. Murty . .	Research Officer (Electrical)
Shri J. T. Wheatley . .	Inspecting Officer for Railways, Tatanagar.

APPENDIX C

GRAPHS

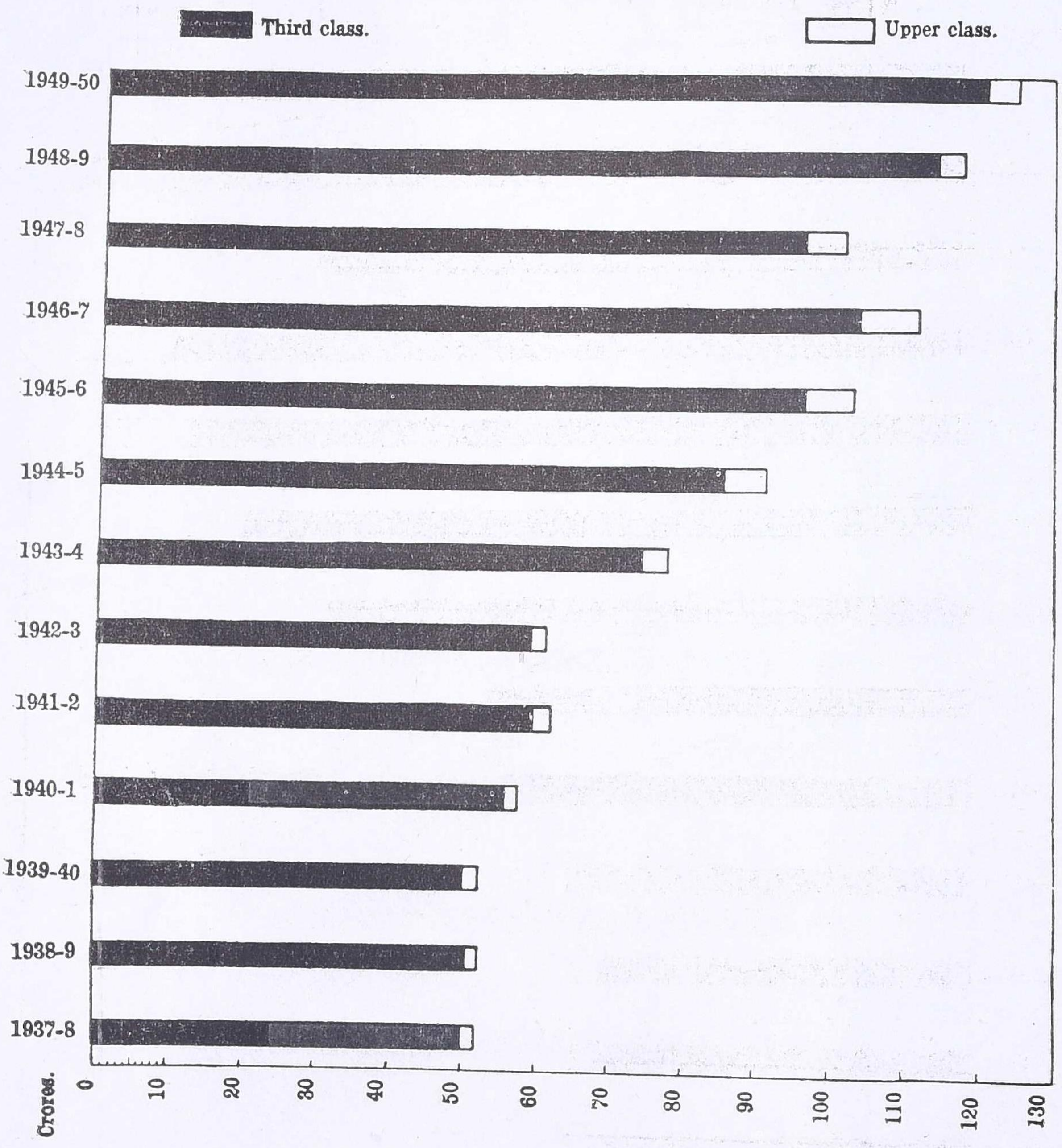
TOTAL CAPITAL AT CHARGE, TOTAL GROSS EARNINGS AND TOTAL WORKING EXPENSES OF INDIAN GOVERNMENT RAILWAY LINES

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



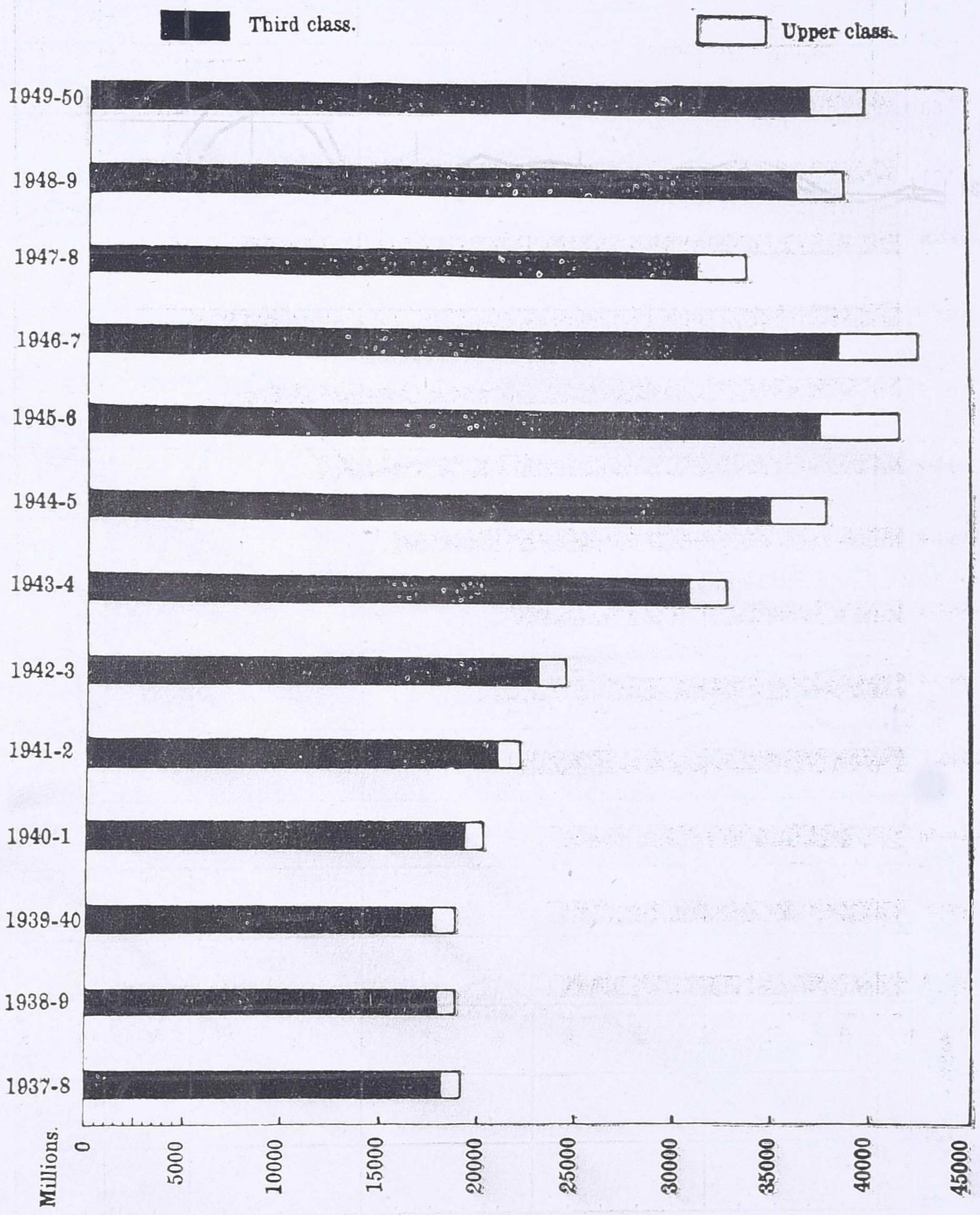
NUMBER OF PASSENGERS CARRIED ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



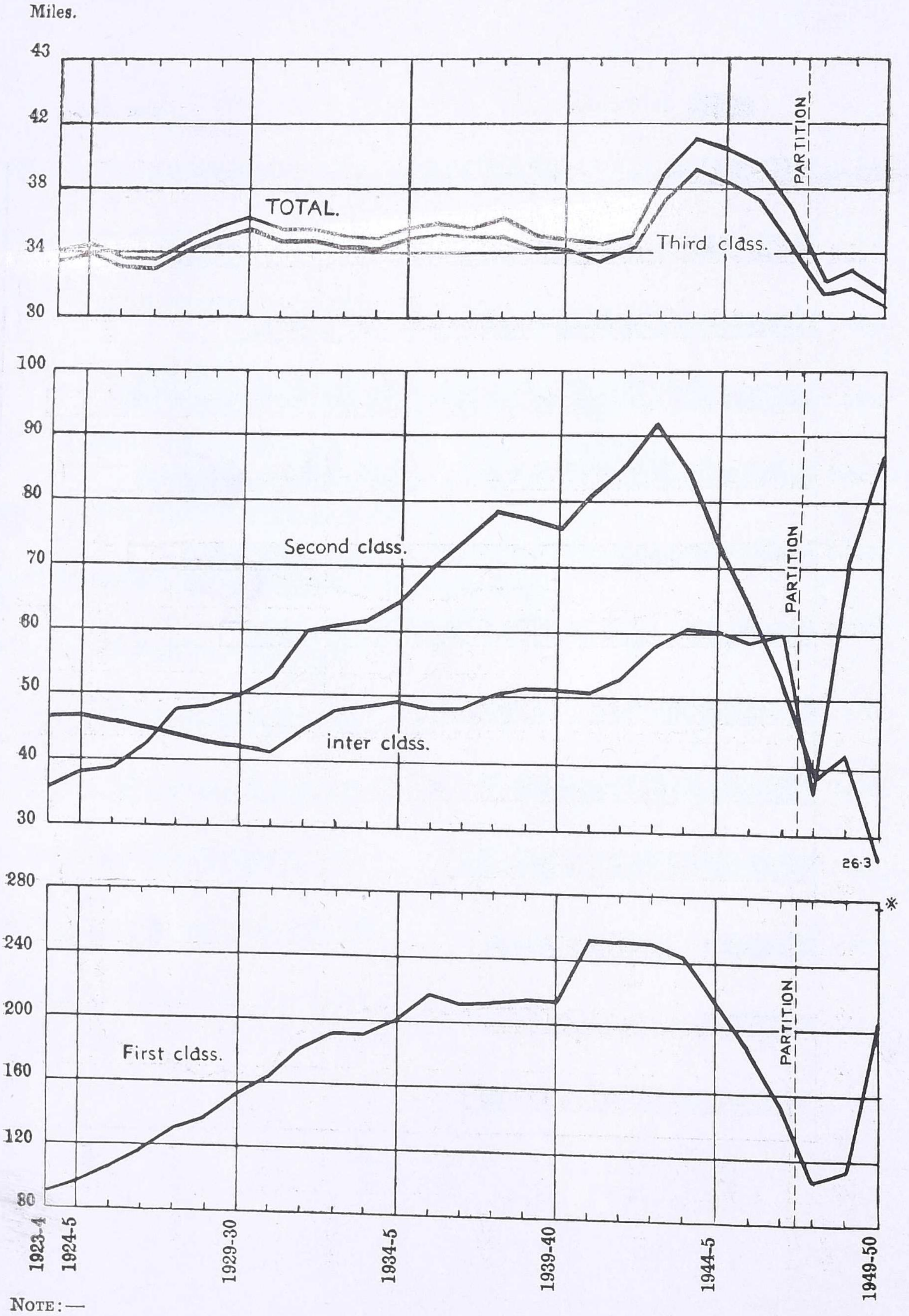
NUMBER OF PASSENGER MILES ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



AVERAGE MILES A PASSENGER WAS CARRIED
ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NOTE:—

The figures by classes for 9 months up to December 1948 according to the old classes are combined with the figures from 1-1-49 onwards as detailed below:—

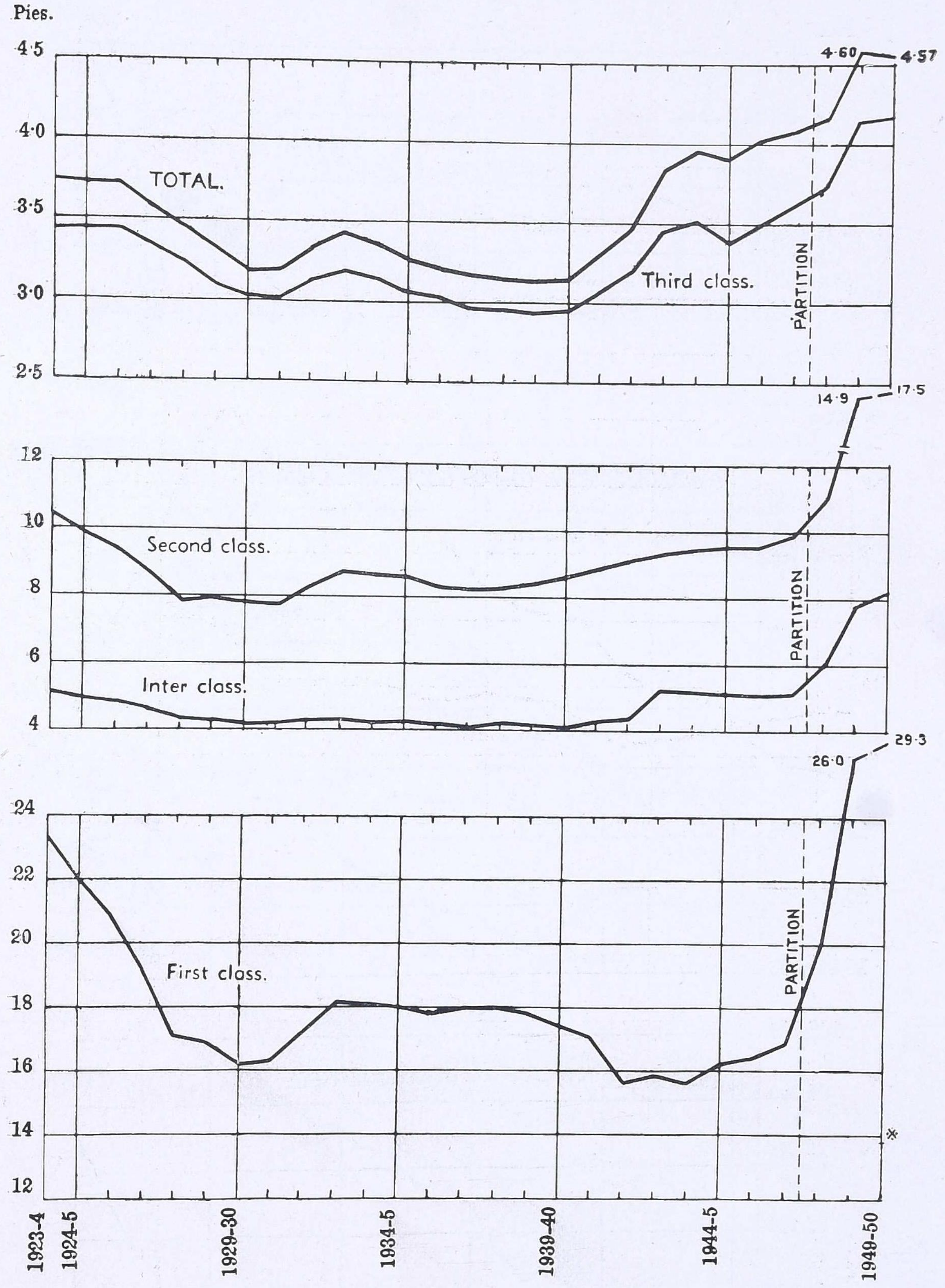
First class with air conditioned
Second class with Class I.
Inter class with Class II.
Third class with Class III.

* For Class II Special.

AVERAGE RATE CHARGED PER PASSENGER PER MILE

ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NOTE:—

The figures by classes for 9 months up to December 1948 according to the old classes are combined with the figures from 1-1-49 onwards as detailed below:—

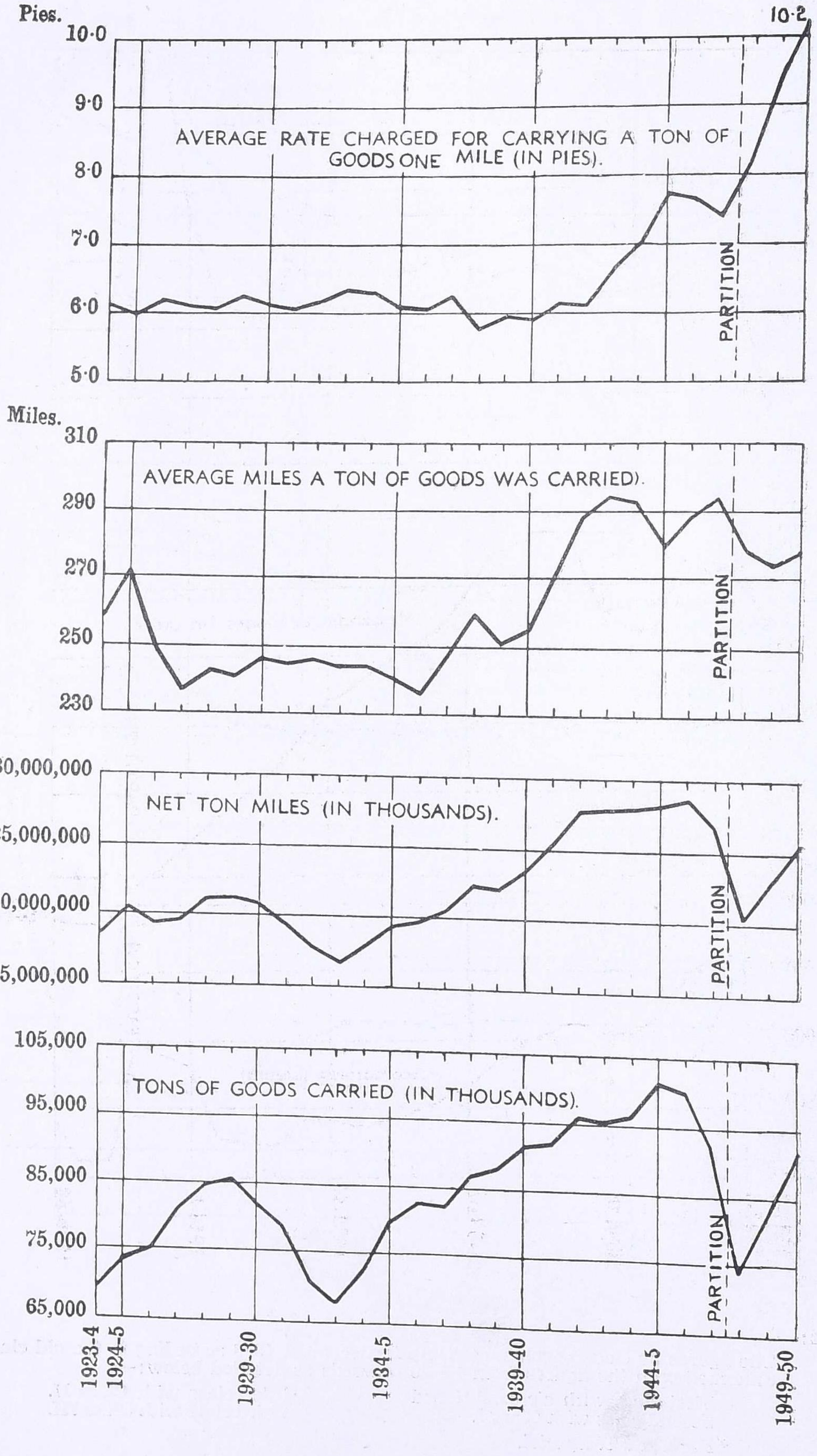
First class with air conditioned
Second class with Class I.
Inter class with Class II.
Third class with Class III.

* For Class II Special.

AVERAGE RATE, AVERAGE LEAD, NET TON MILES, TONS CARRIED

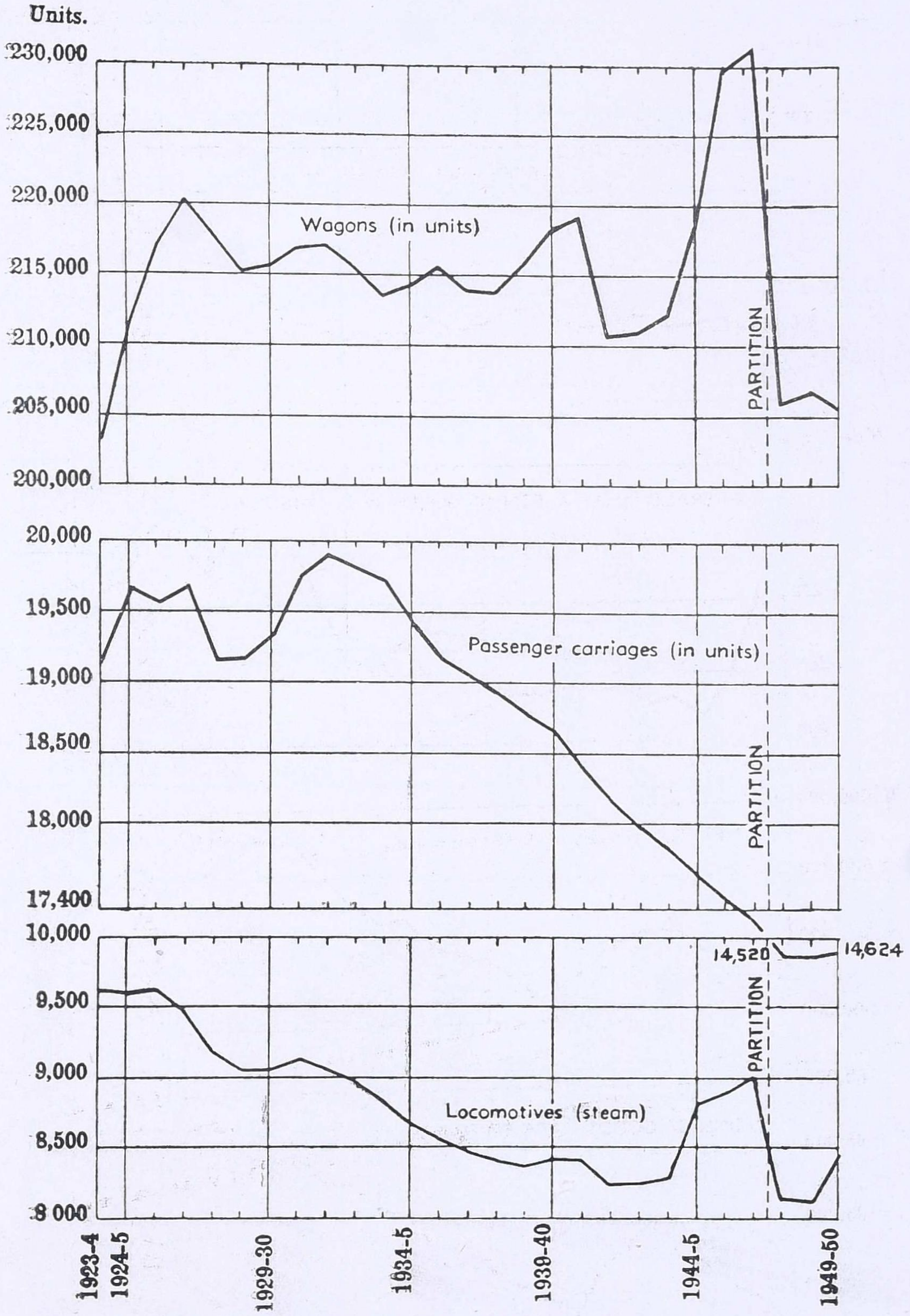
ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



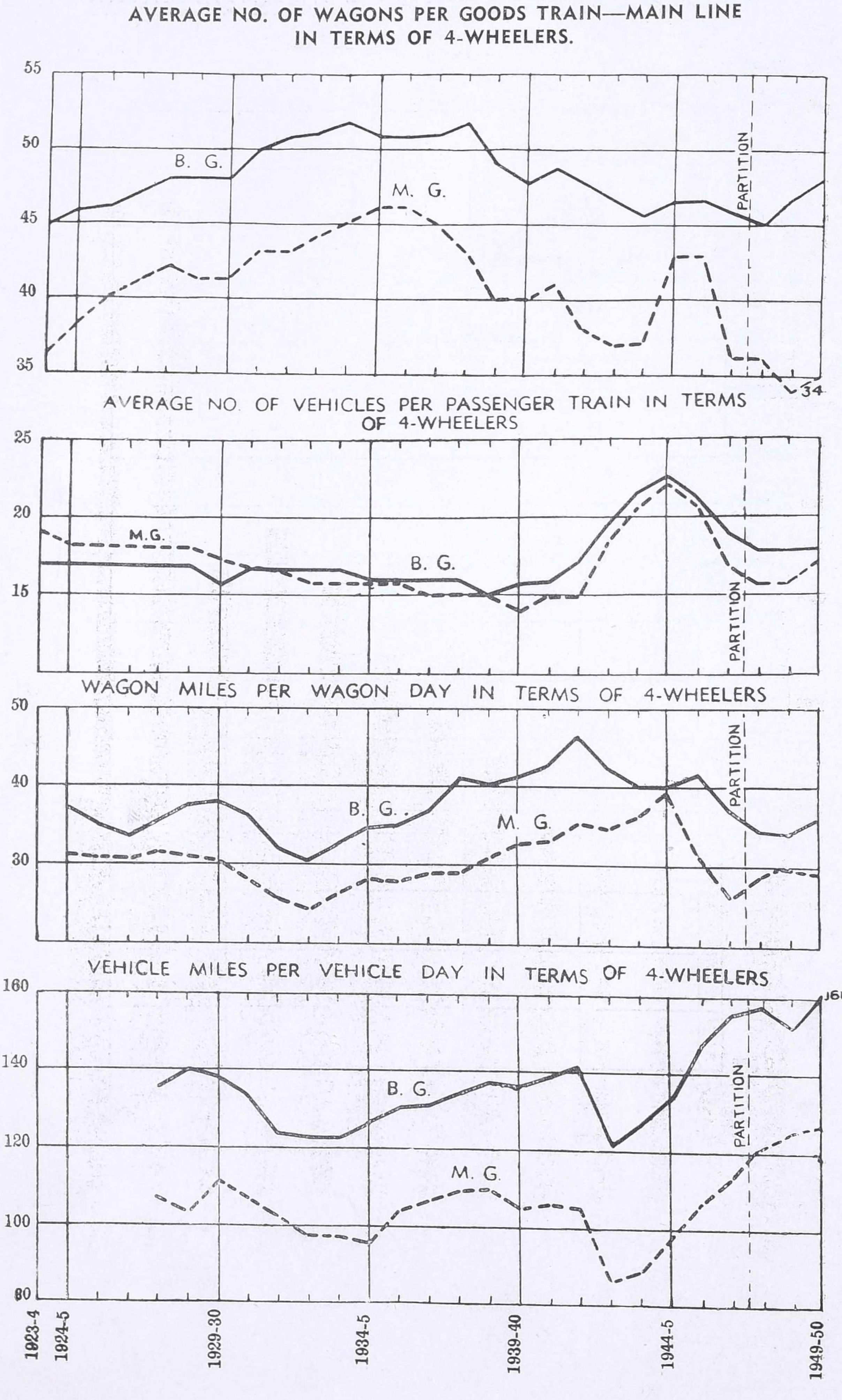
ROLLING-STOCK IN SERVICE ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



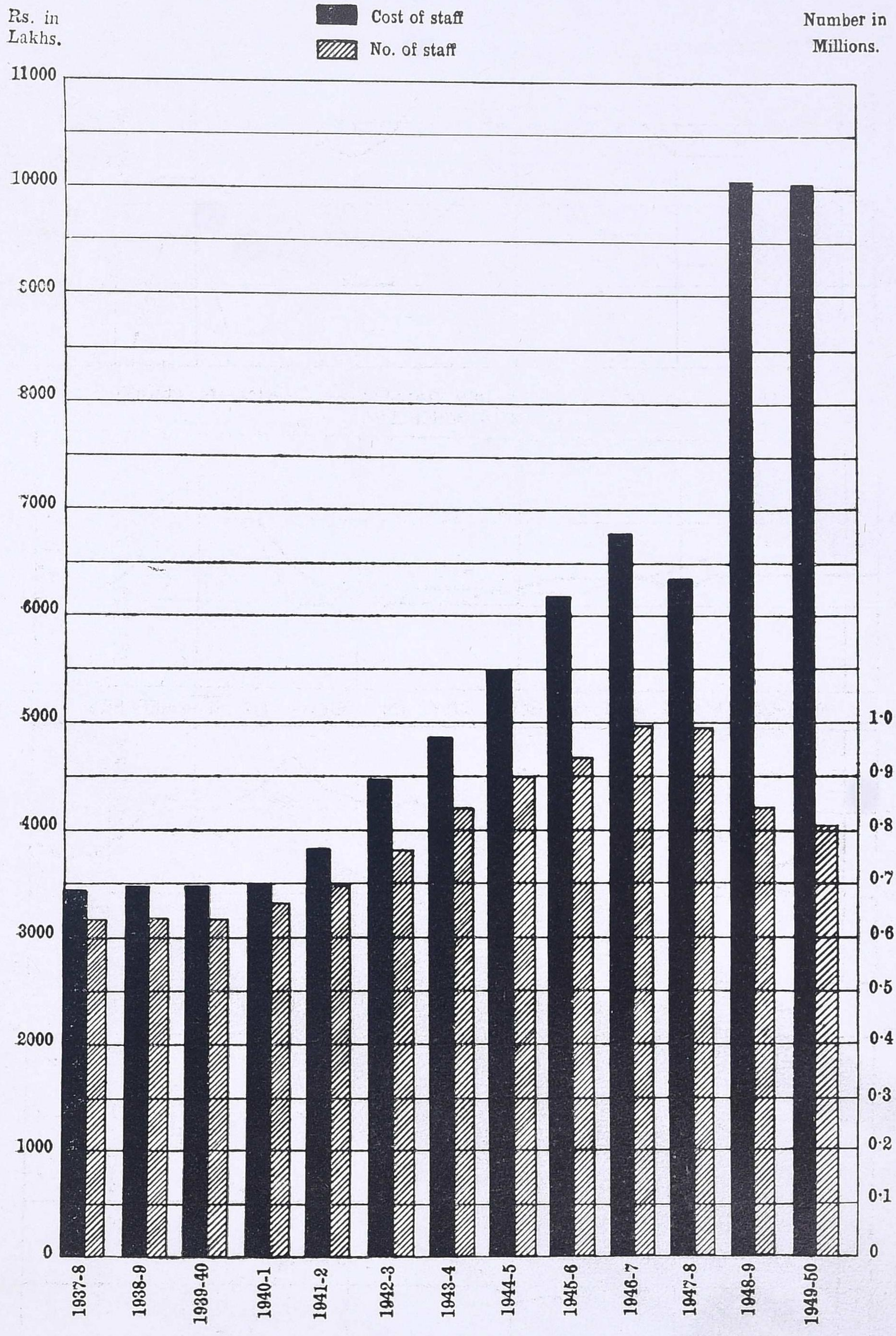
WAGON AND VEHICLE UTILIZATION, CLASS I RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



TOTAL NUMBER AND COST OF STAFF INDIAN GOVERNMENT RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NOTE.—The figures between the years 1943-4 and 1947-8 exclude the value of grainshop concessions granted to staff.

APPENDIX D

Railway Administrations in India alphabetically arranged by Classes according to their gross earnings showing the working agencies, ownership, and route mileage open on 31 March 1950.*

Indian Railway systems have been classified under three Classes for statistical purposes—

Class I Railways with gross earnings of Rs. 50 lakhs and over a year.

Class II Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs a year.

Class III Railways with gross earnings of Rs. 10 lakhs and under a year.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS I RAILWAYS			
1. Assam	Indian Government.	(a) Assam†	3′-3⅜″	1,637	Indian Government.
		(b) Chaparmukh-Silghat‡	3′-3⅜″	51	Branch Line Company under guarantee terms.
		(c) Katakhal-Lalabazar.‡	3′-3⅜″	24	Ditto.
		(d) Assam (D. H. section).	2′-0″	74	Indian Government.
2. Bengal Nagpur	Indian Government.	(a) Bengal Nagpur	5′-6″	2,464	Indan Government.
		(b) Bengal Nagpur§	2′-6″	854	Ditto.
		(c) Mayurbhanj	2′-6″	71	Branch Line Company under rebate terms.
3. Bikaner State	Indian State	(a) Bikaner State	3′-3⅜″	876	Indian State.
		(b) Nabha Section of the Sadulpur-Rewari Line.	3′-3⅜″	7	Ditto.
4. Bombay, Baroda & Central India.	Indian Government.	(a) Bombay, Baroda & Central India.¶	5′-6″	1,232	Indian Government.
		(b) Nagda-Ujjain	5 -6″	35	Indian State.
		(c) Bombay, Baroda & Central India¶	3′-3⅜″	2,241	Indian Government.
		(d) Bombay, Baroda & Central India.¶	2′-6″	580	Ditto.
5. East Indian	Indian Government.	(a) East Indian	5′-6″	4,357	Ditto.
		(b) Kanpur-Barabanki & others	3′-3⅜″	6	Ditto.
		(c) Santipur-Nabadwip	2′-6″	17	Ditto.

* No reclassification of Railways has been made after 1942 though earnings in many cases have exceeded the limits of gross earnings laid down for Class II or Class III Railways.

† Includes Cooch-Behar State Railway which came to vest in the Central Government with effect from 1 January 1950 as a result of merger of the State with West Bengal. It also includes Siliguri-Haldibari section taken over from E. B. Railway (Pakistan) with effect from 20 January 1950, Katihar Division transferred from O. T. Railway, Assam Rail Link and Darjeeling Himalayan Railway.

‡This line is guaranteed by the Government of India and also receives a subsidy from the Assam Government.

§ Comprises of Parlakimedi Light Railway purchased on 1 February 1950 and Purulia-Ranchi, Raipur-Dhamtari and Satpura Sections already owned by the Government.

¶Includes following worked lines which came to vest in the Government of India with effect from 1 August 1949 as a result of merger of former Indian States with Provinces (now Part 'A' States):

5′-6″—Gaekwar's Petlad and Tarapur-Cambay State Railways.
3′-3⅜″—Palanpur State and Gaekwar's Baroda State Railways.
2′-6″—Rajpipla State, Piplod Devgad Baria and Gaekwar's Baroda State Railways. (Besides Champaner-Shivrajpur Pani Light, Godhra-Lunawada and Nadiad-Kapadvanj already owned by the Government of India are also grouped in the narrow gauge system.)

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS I RAILWAYS—*contd.*			
6. Eastern Punjab.	Indan Government.	(*a*) Eastern Punjab .	5′-6″	1,484	Indian Government.
		(*b*) Ludhiana-Dhuri-Jakhal.	5′-6″	79	Indian State.
		(*c*) Rajpura-Bhatinda	5′-6″	108	Ditto.
		(*d*) Jind-Panipat .	5′-6″	26	Ditto.
		(*e*) Sirhind-Rupar .	5′-6″	31	Ditto.
		(*f*) Rupar-Talaura* .	5′-6″	34	Indian Government.
		(*g*) Kalka-Simla .	2′-6″	60	Ditto.
		(*h*) Kangra Valley† .	2′-6″	68	Ditto.
7. Great Indian Peninsula.	Indian Government.	(*a*) Great Indian Peninsula.	5′-6″	3,085	Indian Government.
		(*b*) Bhopal-Itarsi‡ .	5′-6″	57	Ditto.
		(*c*) Bhopal-Ujjain‡ .	5′-6″	115	Indian State.
		(*d*) Bina-Baran . .	5′-6″	147	Ditto.
		(*e*) Great Indian Peninsula.§	2′-6″	62	Indian Government.
		(*f*) Ellichpur-Yeotmal	2′-6″	118	Branch Line Company under rebate terms.
		(*g*) Pulgaon-Arvi .	2′-6″	22	Ditto.
		(*h*) Matheran (Hill) Light.	2′-0″	13	Indian Government.
8. Jodhpur .	Indian State .	Jodhpur . . .	3′-3⅜″	811	Indian State.
9. Madras & Southern Mahratta.	Indian Govt.	(*a*) Madras and Southern Mahratta.	5′-6″	1,091	Indian Government.
		(*b*) Kolar Gold Field (M. S. Railway.)	5′-6″	10	Indian State.
		(*c*) Tenali-Repalle .	5′-6″	21	District Board.
		(*d*) Madras and Southern Mahratta¶.	3′-3⅜″	1,746	Indian Government.
		(*e*) Alnavar-Dandeli (Provincial).	3′-3⅜″	19	Ditto.
		(*f*) West of India Portuguese.	3′-3⅜″	51	Foreign Country.
10. Mysore State .	Indian State .	(*a*) Mysore State .	3′-3⅜″	587	Indian State.
		(*b*) Nanjangud Town-Chamarajanagar.	3′-3⅜″	22	Guaranteed by Mysore State for Mysore District Board.
		(*c*) Mysore State‖ .	2′-6″	102	Indian State.
11. Nizam's State	Indian State .	(*a*) Nizam's State .	5′-6″	667	Ditto.
		(*b*) Bezwada Extension.	5′-6″	22	Indian Government.
		(*c*) Nizam's State .	3′-3⅜″	708	Indian State.
		(*d*) Dronachellam-Kurnool.	3′-3⅜″	36	Indian Government.

* Jointly owned by the Government of India and Provincial Government.

† Guaranteed by Provincial Government.

‡ Bhopal-Itarsi Railway and Bhopal-Parbati Section of the Bhopal-Ujjain Railway came to vest in the Government of India with the constitution of the Bhopal State into a Centrally Administered Area (now Part 'C' State).

§ Comprises of Dhond-Baramati and Pachora-Jamner Sections.

¶ Includes Sangli State and Kolhapur State Railways which have come to vest in the Central Government with effect from 1 August 1949 as a result of merger of these States with Bombay Province.

‖ Comprises of Bangalore Chik Ballapur Light and Kolar District Railways.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		Class I Railways—*concld.*			
12. Oudh Tirhut .	Indian Govt. .	Oudh Tirhut* . .	3′-3⅜″	2,738	Indian Government.
13. South Indian .	Indian Govt. .	(*a*) South Indian .	5′-6″	559	Ditto.
		(*b*) Shoranur-Cochin .	5′-6″	69	Indian State.
		(*c*) Cochin Harbour. .	5′-6″	4	Unassisted Company.
		(*d*) South Indian† .	3′-3⅜″	1,508	Indian Government.
		(*e*) Peralam-Karaikkal	3′-3⅜″	15	Foreign country.
		(*f*) Pondicherry .	3′-3⅜″	8	Ditto.
		(*g*) Tinnevelly-Tiruchendur.	3′-3⅜″	38	District Board.
		(*h*) Travancore (Indian Government Section).	3′-3⅜″	51	Indian Government.
		(*i*) Travancore (Indian State Section) including Quilon Trivandrum Central Extension.	3′-3⅜″	98	Jointly owned by Indian Government and Indian State.
		Class II Railways.‡			
1. Barsi Light .	Barsi Light Railway Co.	Barsi Light . .	2′-6″	203	Unassisted Company.
2. Jaipur State .	Indian State .	Jaipur State . .	3′-3⅜″	275	Indian State.
3. Saurashtra .	Indian State .	(*a*) Saurashtra . .	3′-3⅜″	1,111	Ditto.
		(*b*) Okhamandal§ .	3′-3⅜″	37	Indian Government.
		(*c*) Khijadia-Dhari and Prachi-Kodinar.§	3′-3⅜″	53	Ditto.
		(*d*) Saurashtra Tramway.	2′-6″	140	Indian State.
4. Shahdara (Delhi)-Saharanpur Light.	Shahdara (Delhi) Saharanpur Light Railway Co.	Shahdara (Delhi)-Saharanpur Light.¶	2′-6″	93	Company subsidized by the Govt. of India.
		Class III Railways.‡			
1. Ahmadpur-Katwa.	Ahmadpur-Katwa Railway Co.	Ahmadpur-Katwa‖ .	2′-6″	32	Branch Line Company under guarantee terms.
2. Arrah-Sasaram Light.	Arrah-Sasaram Light Railway Co.	Arrah-Sasaram Light	2′-6″	65	Company subsidized by District Board.
3. Bankura-Damodar River.	Bankura-Damodar River Railway Co.	Bankura-Damodar River.‖	2′-6″	60	Branch Line Company under guarantee terms.

* Excludes Rohanpur-Godagari Section handed over to E. B. Railway (Pakistan) and Katihar Division transferred to Assam Railway.

† Includes Nilgiri Railway which was already owned by the Government of India.

‡ Please *see* footnote '*' on page 107.

§ These sections originally belonging to Baroda Durbar have come to vest in the Government of India on 1 August 1949 as a result of merger of Baroda State with Bombay Province.

¶ Receives land only from Government.

‖ Guaranteed by the Government of India.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS III RAILWAYS—*contd.*			
4. Baraset-Basirhat Light.	Baraset-Basirhat Light Railway Co.	Baraset-Basirhat Light	2′-6″	52	Company subsidized by District Board.
5. Bengal Provincial.	Bengal Provincial Railway Co.	(*a*) Bengal Provincial	2′-6″	33	Unassisted Company.
		(*b*) Dasghara-Jamalpurganj.*	2′-6″	8	Branch Line Company under guarantee terms.
6. Bukhtiarpur-Bihar Light.	Bukhtiarpur-Bihar Light Railway Co.	Bukhtiarpur-Bihar Light.	2′-6″	33	Company subsidized by District Board.
7. Burdwan-Katwa.	Burdwan-Katwa Railway Co.	Burdwan-Katwa* .	2′-6″	32	Branch Line Company under guarantee terms.
8. Cutch State .	Indian State	Cutch State† . .	2′-6″	72	Indian Government.
9. Dehri-Rohtas Light.	Dehri-Rohtas Light Railway Co.	Dehri-Rohtas Light .	2′-6″	24	Company subsidized by District Board.
10. Dholpur State	Indian State	Dholpur State . .	2′-6″	55	Indian State.
11. Futwah-Islampur.	Futwah-Islampur Light Railway Co.	Futwah-Islampur* .	2′-6″	27	Branch Line Company under guarntee terms.
12. Howrah-Amta Light.	Howrah-Amta Light Railway Co.	Howrah-Amta Light .	2′-0″	44	Company subsidized by District Board.
13. Howrah-Sheakhala Light.	Howrah-Sheakhala Light Railway Co.	Howrah-Sheakhala Light. .	2′-0″	20	Ditto.
14. Jagadhri Light	Jagadhri Light Railway Co.	Jagadhri Light .	2′-0″	3	Unassisted Company.
15. Kalighat Falta	Kalighat-Falta Railway Co.	Kalighat-Falta* .	2′-6″	26	Branch Line Company under guarantee terms.
16. Rajasthan State	Indian State .	Rajasthan State .	3′-3⅜″	197	Indian State.
17. Scindia State .	Indian State .	Scindia State . .	2′-0″	294	Ditto.
18. Tezpore-Balipara Light.	Tezpore-Balipara Light Railway Co.	Tezpore-Balipara Light	2′-6″	20	Company subsidized by District Board.‡

* Guaranteed by the Government of India.

† This line came to vest in the Government of India with the constitution of the Cutch State into a Centrally Administered Area (now Part 'C' State).

‡ Subsidy ceased with effect from 1914-5.

APPENDIX E

Principal Statistics of Railway Working in Selected Foreign Countries.

BRITISH RAILWAYS, 1949*

Capital†	£1,226,009,242
Route mileage	19,573
Total Gross Receipts	£325,488,445
Working expenses	£312,827,636
Net traffic receipts	£12,660,809
Operating ratio	96%
Passenger journeys originating (in thousands)	992,782
Passenger miles (estimated) (millions)	21,138
Passenger earnings (in thousands)	£114,068
Freight train traffic originating tons (in thousands)	280,170
Estimated Net ton miles (in thousands)	21,848,433
Freight earnings (in thousands)	£179,002
Train miles—	
Coaching (in thousands)	241,388
Freight (in thousands)	139,784
Number of employees at end of year (including Collection and Delivery Services)	624,528

* *British Transport Commission Report & Accounts for 1949.*

† Capital represents the gross book value of rolling-stock, vehicles, plant and equipment, lands, buildings, permanent way, etc.

U. S. RAILWAYS, 1948*

Investment in Road and equipment—book value (in thousands)	$28,664,759
Miles of Road owned	225,149
Operating revenues (in thousands)	$9,784,332
Operating expenses (in thousands)	$7,552,630
Ratio of operating expenses to operating revenues	77·19%
Passengers carried (in thousands)	645,535
Passenger miles (in thousands)	41,224,319
Passenger revenues (in thousands)	$965,630
Total revenue tons† carried (in thousands)	2,997,976
Tons† carried one mile (in thousands)	641,104,175
Freight revenue (in thousands)	$8,090,194
Train mileage—	
Passenger train miles (in thousands)	409,371
Freight train miles (in thousands)	593,448
Number of employees (in thousands)	1,345

* *Statistics of Railways in the U. S. A., 1948,* Interstate Commerce Commission.

† Short ton of 2,000 lbs.

CANADIAN RAILWAYS, 1949

	Canadian National Railways*	Canadian Pacific Railways†.
Capital‡	$2,186,133,737	$1,381,246,250
Average mileage of road operated	23,902	17,031
Total operating revenues	$500,723,386	$363,252,094
Total operating expenses	$478,501,660	$342,620,125
Net operating revenues	$22,221,726	$20,631,969
Operating ratio	95·56%	94·3%
Passengers carried	18,678,371	11,969,457
Passenger miles	1,620,839,960	1,389,395,000
Passenger revenue	$43,287,240	$37,786,760
Tons carried (Revenue freight)	76,845,970	56,445,684
Net ton miles of freight (Revenue)	30,921,807,529	24,260,588,000
Freight revenue	$394,424,463	$292,082,977
Train miles—		
Passenger service	§23,740,378	20,117,297
Freight service	§43,160,657	35,636,927
Number of employees	111,806	¶75176

* *1949 Annual Report, Canadian National Railways.*

† *Canadian Pacific Railway Company Annual (1949) Report.*

§ Excludes Newfoundland District.

¶ Represent the number during 1948 as per Dominion Bureau of Statistics Publications, Canadian Pacific Railway Company—1923-1948.

‡ Represents Property Investment account at the year end.

SOUTH AFRICAN RAILWAYS, 1948-9*.

Total capital expenditure, Railways	£236,717,544
Mileage of open lines as at 31 March 1949	Miles 13,514†
Total earnings	£71,191,988
Total working expenditure (including depreciation)	£56,899,301
Surplus of earnings over gross working expenditure	£14,292,687
Ratio of expenditure to earnings	79·92%
Passenger journeys	254,454,741
Earnings—Passenger	£13,456,425
Total tonnage of revenue earning commodities railed (excluding live stock)	Tons‡ 46,767,118
Live stock	No. 5,796,857
Earnings—Goods, coal and live stock	£53,103,636
Total train miles run	80,938,062
Total staff at 31 March 1949	186,098

* *Report of the General Manager of Railways and Harbours for the year ended 31 March 1949.*

† Includes 174 miles of private lines.

‡ Short ton of 2,000 lbs.

AUSTRALIAN RAILWAYS, 1948-9*

	New South Wales Railways	Victorian Railways	Queensland Railways†	Western Australian Government Railways
Capital	£173,100,320§	£81,594,701‡	£44,502,826	£27,949,580
Miles open for traffic on 30 June 1949.	6,113	4,697	6,491	4,321
Earnings	£39,663,461	£17,273,808	£14,927,153	£5,214,844
Working expenses	£35,738,833	£17,815,540¶	£13,770,167	£6,702,254
Net earnings	£3,924,628	£—541,732	£1,156,986	£—1,487,410
Percentage of working expenses to earnings.	90·11	103·14	92·25	128·52
Passenger journeys	263,116,462	176,555,074	32,491,023	12,623,659
No. of passengers carried one mile.	Not available	1,858,640,025	Not available	186,488,454
Passenger revenue	£13,463,726‖	£6,645,684	£2,740,282	£872,476
Tonnage of goods and live stock (Paying).	16,903,172**	8,859,016	6,591,371	2,736,720
No. of tons carried one mile (Paying).	Not availalbe	1,167,582,420	1,140,693,998	393,524,755
Total goods revenue (including Live Stock).	£21,596,852	£8,596,154	£11,018,974	£3,634,680
Train mileage—				
Passenger	(Statistics discontinued)	11,436,469	6,405,406	2,935,099
Goods		5,915,306	10,870,349	4,101,422
No. of staff	59,312	26,970	24,828	10,865

* Annual Reports of respective Railways for the year ending 30 June 1949.

† Exclusive of Uniform Gauge Railway.

‡ Includes £30,000,000 written down under Railways (Finance Adjustment) Act 1936.

¶ Excludes expenditure charged to special funds.

§ On open lines only. Total capital cost including line under construction is £174,579,231.

‖ Represents total coaching earnings.

** Does not include Live stock tonnage.

Books and Technical Papers published by the Railway Board.

BOOK

(1) Report by the Railway Board on Indian Railways. Published yearly, Price: Volume I—Report, Rs. 6-12-0 or 10*sh.* 6*d.* Volume II, Rs. 7-14-0 or 12*sh.* 6*d.* (1948-9).

(2) Classified List of Establishment of Indian Railways and Distribution Return of Establishment of all Railways corrected up to 30 June 1950. Price: Rs. 12-2-0.

(3) History of Indian Railways, constructed and in progress corrected up to 31 March 1945. Published sexenially. Price: Rs. 9-2-0 or 14*sh.* 6*d.*

TECHNICAL PAPERS.

(4) Over 321 papers have been published by the Technical Section of the Railway Board's Office. The papers comprise:—

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere.

(*b*) Reprints of articles from foreign engineering magazines.

(*c*) Reprints or abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* from the Chief Controller, Standardisation, Central Standards Office for Railways, New Delhi. A few of the more important Technical papers are mentioned below:—

Technical Paper.	*Name.*	*Author.*
No. 72.	The design of well foundations for bridges . .	(Compiled.)
„ 148.	Statistics of Railway working expenditure .	G. DEUCHARS.
„ 153.	River training and control on the guide bank system	F. J. E. SPRING.
„ 215.	The Hardinge Bridge over the Lower Ganges at Sara	SIR ROBERT GALES.
„ 219.	Technical education in relation to railways in America	H. L. COLE.
„ 239.	The Central Control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS.
„ 242.	Railway Statistics and the Operating Officer . .	MAJOR F. H. BUDDEN.
„ 243.	How to judge the prospects of new railways .	LT.-COL. L. E. HOPKINS.
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„ 247.	1st and 2nd interim reports of the Indian Railway Bridge Committee on Impact and Revision of the Bridge rules	
„ 249.	Operating Statistics and the Divisional Officer .	MAJOR F. H. BUDDEN.
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„ 263.	Note on composite Index numbers of Indian Railways	W. G. BARNETT.
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„ 266.	Principle of the Absolute Block System, 1929 .	L. H. KIRKNESS.
„ 267.	Flood Lighting, 1929	H. J. MULLENEUX.
„ 271.	Antiseptic treatment of Pinus Longifolia (Chir) for Railway Sleepers	KAMESAM.
„ 272.	The Stereographic Survey of the Shakagam . .	MAJOR KENNETH MASON (Reprint.)
„ 273.	A Schedule system for the Control of Operations in Workshops, 1929	H. H. SAUNDERS.
„ 275.	An Enquiry into the Preparation of Periodic Financial Returns on the Railways of Great Britain, Egypt, and Palestine, 1929 . . .	MAJOR WAGSTAFF.
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Technical Paper.	*Name.*	*Author.*
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" 284.	Notes on progressive system of wagon repairs as introduced in N. W. R. shops at Moghalpura .	B. S. SINDHU.
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" 300.	Report on investigation into modern methods of introducing Transition Curves economically into existing lines of Railway	R. H. MARTIN.
" 301.	Note on Reconditioning of Curves	R. STRICK.
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" 303.	Wear of Rails on curves and check rails clearances required on curves of 4″ and sharper .	A. M. SIMS.
" 304.	Description of the method of Locomotive Repair as carried out in the Kharagpur Workshops of the Bengal Nagpur Railway	L. G. BAILEY.
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